

MARINE CORPS AVIATION INTELLIGENCE:
A DOTMLPF-P ANALYSIS

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ABSTRACT

MARINE CORPS AVIATION INTELLIGENCE: A DOTMLPF-P ANALYSIS, by Major Joseph F. Freshour, U.S. Marine Corps, 98 pages.

Aviation intelligence is critical to the success of the Marine Air Ground Task Force (MAGTF). For the last quarter of a century, Marine aviation has not faced a serious enemy challenge in the skies and has operated with relative freedom of maneuver. This lack of a credible threat has resulted in the aviation intelligence community's losing sight of their role and has weakened the MAGTF. An analysis of the Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities and Policy dedicated to Marine Corps aviation intelligence and the intelligence, surveillance, and reconnaissance enterprise, reveals that they do not adequately support Marine Corps aviation in its current and near-future operations. As countries like Russia and China develop technologies to deny Marines access and to destroy Marine aviation, it is imperative that Marine Corps aviation intelligence refocuses.

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TABLE OF CONTENTS

	Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE	iii
ABSTRACT.....	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS.....	vi
ACRONYMS.....	ix
ILLUSTRATIONS	xi
TABLES	xii
CHAPTER 1 INTRODUCTION	1
Background	1
Problem	1
Primary Research Question.....	2
Secondary Research Questions	2
USMC Aviation Legacy	2
History of USMC Aviation	2
The Six Functions of Aviation.....	4
Offensive Air Support.....	6
Anti-Air Warfare.....	8
Assault Support.....	10
Air Reconnaissance.....	11
Electronic Warfare	13
Control of Aircraft and Missiles	14
Aviation Intelligence.....	16
The Spoils of Air Superiority.....	19
Developing Threat Capabilities	21
Definitions	24
Limitations and Scope	25
Delimitations.....	25
Assumptions.....	26
Expertise	26
CHAPTER 2 LITERATURE REVIEW	28
Marine Corps Gazette Articles	29
Intelligence is a Team Sport.....	30

Solving the 0202 Shortfall and Intelligence Occupational Field	31
Air Intelligence MOS Needed	31
Rebuilding the 0207 Aviation Intelligence Officer	32
Reorganizing the Way We Do Aviation Intelligence	32
Rand Corporation Alert and Ready	33
Intelligence Career Paths and the Joint Strike Fighter	33
Conclusion	34
CHAPTER 3 RESEARCH METHODOLOGY	36
Purpose of the Study	36
The Approach and Methods	37
CHAPTER 4 ANALYSIS	40
Doctrine	41
Organization	44
MCIA	45
MEF Intelligence Battalion	47
Joint Billets	47
Training	49
Training and Readiness Manual	49
AIOC	53
MIOC	54
MAWTS-1	55
VMFT-401 Aggressor Squadron	57
Leadership	59
Personnel	61
Enlisted Intelligence Personnel	61
Intelligence Officer Personnel	63
Weapons and Tactics Instructors	64
CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS	67
Conclusions	67
Lack of Doctrine	68
Lack of High-Level Support	68
Lack of Defined Training	69
Lack of Career Progression	70
Poor Personnel Management	71
Secondary Questions	71
Recommendations	72
Doctrine	73
Organization	73
Training	74
Career Progression	75

Personnel Management	75
Items Requiring Further Research	77
Material: Technology Support to Aviation Intelligence	77
Facilities: Sensitive Compartmented Information Facilities.....	78
Policy: Defense Intelligence Analysis Program.....	79
BIBLIOGRAPHY	81

ACRONYMS

ACE	Air Combat Element
AIOC	Aviation Intelligence Officers Course
CAS	Close Air Support
DAS	Deep Air Support
DIAP	Defense Intelligence Analysis Program
DOTMLPF-P	Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities and Policy
IC	Intelligence Community
MAG	Marine Aircraft Group
MAGTF	Marine Air Ground Task Force
MAW	Marine Aircraft Wing
MAWTS-1	Marine Aviation Weapons and Tactics Squadron One
MCDP	Marine Corps Doctrinal Publication
MCIA	Marine Corps Intelligence Activity
MCRP	Marine Corps Reference Publication
MCWP	Marine Corps Warfighting Publication
MEF	Marine Expeditionary Force
MET	Mission Essential Task
MEU	Marine Expeditionary Unit
MIOC	MAGTF Intelligence Officers Course
MOS	Military Occupational Specialty
OAAW	Offensive Anti-Air Warfare
OAS	Offensive Air Support

ODS	Operation Desert Storm
SCI	Sensitive Compartmented Intelligence
SCIF	Sensitive Compartmented Intelligence Facility
T&R	Training and Readiness Manual
USMC	United States Marine Corps
WTI	Weapons and Tactics Instructor
WTTP	Weapons and Tactics Training Program

ILLUSTRATIONS

	Page
Figure 1. Functions of Aviation in Support of Warfighting Functions	5

TABLES

	Page
Table 1. Doctrine Analysis.....	42
Table 2. Organization Analysis.....	45
Table 3. Training Analysis.....	50
Table 4. Leadership Analysis.....	59
Table 5. Personnel Analysis.....	61

CHAPTER 1

INTRODUCTION

Marine aviation's expeditionary character sets it apart from all other aviation organizations. The ACE's role is to project combat power, conduct air operations, and contribute to battlespace dominance in support of the MAGTF's mission, and it organizes, trains and equips for that role.

—U.S. Marine Corps, MCWP 3-2, *Aviation Operations*

Background

Problem

The United States Marine Corps (USMC) has not faced a significant threat to aviation since Operation Desert Storm (ODS). Even then, it is difficult to label the Iraqi air defenses as formidable, due to the advantages the United States experienced in 1991. Since ODS and because of the demonstrated asymmetry of U.S. airpower, countries like Russia and China have worked to reduce the advantages U.S. airpower enjoyed against Iraq. With that, the last fourteen years of war against insurgent forces has allowed USMC aviation to operate with relative ease.

The USMC aviation intelligence community has not had to focus on aviation threats and thus has not truly been tested. Instead, the focus has predominantly been on collections in the form of intelligence, surveillance, and reconnaissance, as well as targeting. As the nation's 911 force, the USMC must be in a constant state of readiness so that it can conduct forcible entry against its enemies, as directed by U.S. leadership. If one of these enemies possesses a credible threat to USMC aviation, will USMC aviation intelligence be prepared?

Primary Research Question

Does USMC aviation intelligence adequately support USMC aviation operations?

Secondary Research Questions

1. Does the current structure allow experts to be developed inside the USMC aviation intelligence community?
2. Does the USMC need organic expertise in aviation intelligence?

USMC Aviation Legacy

History of USMC Aviation

The USMC first experimented with aviation in 1913 when it conducted maneuvers involving aircraft off Guantanamo, Cuba. It was there that Marine pilots conducted reconnaissance and aerial bombing missions in support of Marine ground forces. World War I then provided Marine aircrew with their first combat exposure to air-to-air, air-to-ground, and aerial resupply operations. These early experiences were the first step in emphasizing the importance of combined arms warfare in the USMC.¹

By 1927, the USMC was experimenting with tactics, techniques, and procedures for integrating and coordinating aviation into the ground scheme of maneuver. This integration was first seen in use against Sandinista forces in Nicaragua. Integration and coordination allowed USMC aviation to conduct the early practice of close air support (CAS), deep air support (DAS), and casualty evacuation.

¹ U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 3-2, *Aviation Operations* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2000), 1-2.

In the 1930s, the potential for conflict in the Pacific theater led the USMC to develop amphibious doctrine, formalize the Fleet Marine Force, and officially include aviation in the Fleet Marine Force structure.² The lessons learned during Nicaragua and throughout the interwar period played an integral part in the success of USMC aviation, primarily in CAS, during World War II.³ It was during the island hopping campaign against Japan that USMC aviation was able to utilize effective CAS during amphibious landings. The organic nature of USMC aviation was important because its pilots had to serve on the ground before attending flight school. This gave aircrew the unique advantage of having special interest regarding the amphibious assaults that they were supporting.⁴

The war in Korea provided further context to refine and validate the lessons learned during World War II and it gave way to new uses for USMC aviation along with new equipment. Fixed-wing jet aircraft were used to conduct CAS and helicopters were used to conduct the rescue of downed aircrew and to execute an early form of armed escort. The first elements of aerial reconnaissance were seen in the use of Marine photographic squadrons. Additionally, the USMC recognized the need to control its aircraft.⁵ The tactical air command center was created to manage the use of aviation

² U.S. Marine Corps, MCWP 3-2, 1-2.

³ Williamson Murray and Allan Millet, *Military Innovation in the Interwar Period* (Cambridge, MA: Cambridge University Press, 1996), 176-178.

⁴ Ibid., 86.

⁵ U.S. Marine Corps, MCWP 3-2, 1-3.

assets and the direct air support center was created to control them. These steps further enhanced the organic nature of USMC aviation.

In Vietnam, USMC aviation saw further refinement in doctrine, tactics, and the equipment that helped establish the foundations for equipment used today.⁶ Fixed-wing aircraft demonstrated the ability to conduct antiair warfare, offensive air support (OAS), electronic warfare, assault support, and air reconnaissance. Equally, rotary-wing aircraft demonstrated their ability to conduct a broad range of operations through their use in OAS and assault support. Lastly, USMC air command and control continued to improve by using automated systems to control aircraft and missiles. Since Vietnam, the USMC has modernized its aviation forces in order to continue to support the Marine Air Ground Task Force (MAGTF) through use of the six functions of aviation.⁷

The Six Functions of Aviation

The six functions of USMC aviation are important because the success of the MAGTF commander relies on the primary or supporting role that USMC aviation plays in the six USMC warfighting functions: command and control, maneuver, fires, intelligence, logistics, and force protection.⁸ Aviation intelligence is important because of

⁶ U.S. Marine Corps, MCWP 3-2, 1-4.

⁷ Specifically designed for swift deployment of Marine forces by air, land, or sea, the MAGTF provides the USMC with a broad spectrum of response options when U.S. interests are threatened. Coordinating a balanced team of ground, air, and logistics assets under a central command, these self-sustained, combined arms forces conduct the full range of operations. MAGTFs can be tailored in size and capability to meet the needs of each mission.

⁸ U.S. Marine Corps, MCWP 3-2, 3-11.

the primary and supporting relationship it shares with the six functions of aviation and its role as one of the warfighting functions. These relationships can be seen in figure 1.

Functions of Marine Aviation	Warfighting Functions and the Type of Support Provided					
	Command and Control	Maneuver	Fires	Intelligence	Logistics	Force Protection
Assault Support	Support	Primary	Support	Support	Primary	Support
AAW	Support	Support	Support	Support	Support	Primary
Air Reconnaissance	Support	Support	Support	Primary	Support	Support
EW	Support	Support	Primary	Primary	Support	Primary
OAS	Support	Support	Primary	Support	Support	Primary
Control of Aircraft and Missiles	Primary	Support	Support	Support	Support	Support

Figure 1. Functions of Aviation in Support of Warfighting Functions

Source: U.S. Marine Corps, Marine Corps Warfighting Publication 3-2, *Aviation Operations* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 9 June 2000), 3-11.

During conflict, any or all of the six functions may be executed to accomplish the MAGTF commander's and potentially the joint force commander's objective(s).⁹ Regardless of who receives support from USMC aviation, each of the six functions has organic and non-organic intelligence requirements.¹⁰ In addition, because many of the USMC aviation assets, both fixed-wing and rotary-wing, overlap in regards to what functions they are capable of performing, USMC intelligence must have a thorough

⁹ U.S. Marine Corps, MCWP 3-2, 1-2.

¹⁰ MCWPs for each of the six functions provide an outline of what organic and non-organic intelligence support is required. These MCWPs are 2-22, 3-22, 3-23, 3-24, 3-25, and 3-26.

understanding of the capabilities and limitations of each asset they support, in its execution of any of the six functions.¹¹ A description of each of the six functions of USMC aviation and their respective aviation intelligence requirements is below.

Offensive Air Support

As the name implies, OAS involves offensive operations against enemy infrastructure and personnel. OAS can be used for many purposes, in general terms its goal is to destroy enemy resources. These targeted resources can range from critical command and control nodes to high value leadership personnel. In addition, OAS can serve ground units by providing long-range fires and integrated force protection. Because of the multi-faceted capabilities of OAS, it is broken into the sub-components, DAS and CAS.¹²

DAS is defined as an air action against enemy targets at such a distance from friendly forces that detailed integration of each mission with fire and movement of friendly forces is not required.¹³ In simple terms, DAS deals with target(s) that are at such a distance from friendly forces that the risk of fratricide does not exist. DAS can be conducted using one of two mission sets, air interdiction, and armed reconnaissance. Both missions aim to remove an enemy's abilities before they can be brought to bear

¹¹ U.S. Marine Corps, MCWP 3-2, 2-1.

¹² U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 3-23, *Offensive Air Support* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2001), 2-1.

¹³ Ibid., 2-2.

against friendly forces.¹⁴ What differs between air interdiction and armed reconnaissance is whether a target or target set is known prior to execution. Air interdiction, which is sometimes referred to as a strike, is conducted on pre-planned targets, and usually involves a large amount of preparation prior to execution. Armed reconnaissance is much more generic in that a matrix of desired target precedence is given, but the detailed disposition and location are not. This requires aircrew to essentially hunt for a set of targets amongst a group of target areas of interest. They are then required to prioritize which targets to destroy, based on the commander's intent.

Unlike DAS, CAS is utilized when detailed integration between friendly forces and aviation assets is required.¹⁵ CAS allows the commander to synchronize the movement of friendly forces, indirect fire assets, and aviation assets against hostile targets that are in close proximity to friendly units.¹⁶

Regardless of which subset of OAS is being executed, it requires continuous intelligence updates to provide a continuous flow of information to OAS planning and operations. Crucial inputs are needed for target development, enemy capabilities, centers of gravity, force dispositions, relationships, intentions, operations, vulnerabilities, defenses, enemy warfighting sustainability, passive defensive measures, and possible enemy courses of action.¹⁷ Aviation intelligence also supports OAS by providing

¹⁴ Ibid.

¹⁵ U.S. Marine Corps, MCWP 3-23, 2-2.

¹⁶ Director, Joint Staff, Joint Publication (JP) 3-09.3, *Close Air Support* (Washington, DC: Chairman Joint Chiefs of Staff, 2014), I-7.

¹⁷ U.S. Marine Corps, MCWP 3-23, 5-1.

environmental assessments and very specific target coordinates to aid in the effective employment of precision munitions.¹⁸ In addition, aviation intelligence provides and updates the threat levels for OAS operations, which ensures effective OAS execution and minimizes unacceptable risk to aviation assets.¹⁹

Anti-Air Warfare

Similar to DAS, antiair warfare aims to reduce or destroy an enemy's air and missile threat and is generally conducted at such a distance that integration with ground forces is not required.²⁰ Ultimately, antiair warfare is used to establish air superiority through offensive and defensive means. Offensive anti-air warfare (OAAW) involves operations against enemy air and air defense assets.²¹ Standard targets for OAAW include airfields, radar, air defense systems, and aircraft. The execution of OAAW usually involves the suppression of enemy air defenses and/or the destruction of enemy air defenses.²² Outside of USMC aviation, OAAW may also be referred to as offensive counter-air.

The defensive side of antiair warfare involves both active and passive active air defense. Air defense is responsible for defense against enemy aircraft and missiles that

¹⁸ Ibid.

¹⁹ Ibid., 5-2.

²⁰ U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 3-22, *Anti Air Warfare* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2000), 1-1.

²¹ Ibid., 2-1.

²² Ibid., 2-3.

operate inside the earth's atmosphere.²³ Active air defense involves the use of aviation assets, surface-to-air defense assets, electronic warfare assets, and command and control assets to conduct its defense. Passive air defense involves the use of construction, camouflage, concealment, deception, dispersion, cover, and electronic protection.²⁴ Both active and passive air defense are generally used together to achieved the desired endstate. Outside the USMC, air defense may be referred to as defensive counter air.

The execution of OAAW requires dedicated aviation intelligence support that includes organic MAGTF assets and non-organic assets.²⁵ At a minimum, OAAW requires aviation intelligence to provide a description of enemy air and missile defense threats, their location and status, reaction time for warning and direction; target intelligence; and follow-up battle damage assessments. Aviation intelligence personnel are responsible for converting multiple forms of raw intelligence data into a usable format that can be disseminated to OAAW planners in a timely manner.²⁶ The execution of air defense also requires aviation intelligence support from organic and non-organic intelligence assets.²⁷ At a minimum, air defense operations require intelligence regarding threat capabilities, description, location, status, warning, and direction of the enemy air threat.²⁸

²³ Ibid., 3-1.

²⁴ Ibid., 3-3.

²⁵ Ibid., 2-5.

²⁶ Ibid.

²⁷ Ibid., 3-6.

²⁸ Ibid.

Assault Support

To achieve the speed and tempo that maneuver warfare requires, assault support is a necessary function. Assault support uses aircraft to provide tactical mobility and logistics support to the MAGTF commander.²⁹ Assault support is made up of the following sub-elements: combat assault support, air delivery, aerial refueling, tactical recovery of aircraft and personnel, air logistics support, and battlefield illumination.³⁰

Combat assault support provides the ground commander the ability to rapidly deploy his forces using aviation assets. This allows him to get around obstacles, move at much larger distances, and quickly redeploy forces on the battlefield.³¹ Combat assault support adds a third dimension to troop movement. Air delivery then provides the means to logistically support forces from the air. Air delivery involves the delivery of logistics, which can be picked up by rotary-wing aircraft or dropped out of fixed-wing aircraft.³² Aerial refueling provides the Air Combat Element (ACE) the organic ability to greatly extend the range or endurance of its aviation assets.³³ Tactical recovery of aircraft and personnel is utilized in the recovery of personnel and equipment. Specially trained and briefed aircrews are assigned to perform the tactical recovery of aircraft and personnel

²⁹ U.S. Marine Corps, MCWP 3-2, 2-3.

³⁰ Ibid.

³¹ U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 3-24, *Assault Support* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2004), 1-5.

³² Ibid., 1-2.

³³ Ibid.

mission.³⁴ Air logistics support involves fixed-wing aircraft when the movement of ground forces or equipment is needed and it is out of rotary-wing range or other means for surface transportation is unavailable.³⁵ Lastly, battlefield illumination involves the use of overt and covert flares to assist with the ground commander's scheme of maneuver during nighttime operations.³⁶

Aviation intelligence supports assault support by identifying threat surveillance capabilities, air defense capabilities, and applying appropriate threat levels.³⁷ These are all identified during an intelligence preparation of the battlespace. An accurate and thorough intelligence preparation of the battlespace is critical because of the vulnerability of assault support assets.³⁸ The intelligence preparation of the battlespace process determines the threat's most likely course of action and describes the environment in which assault support assets will be operating.³⁹

Air Reconnaissance

The USMC performs air reconnaissance at the tactical, operational, and strategic levels using sensors and visual observation.⁴⁰ Air reconnaissance supports the

³⁴ Ibid.

³⁵ Ibid., 1-3.

³⁶ U.S. Marine Corps, MCWP 3-2, 2-3.

³⁷ U.S. Marine Corps, MCWP 3-24, 2-4.

³⁸ Ibid., 2-3.

³⁹ Ibid.

⁴⁰ U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 3-26, *Air Reconnaissance* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2003), 1-1 - 1-3.

intelligence warfighting function through three different types; visual, multisensor, and electronic.⁴¹ Visual air reconnaissance occurs through the observations of aircrew inside manned platforms. Visual reconnaissance is used primarily in the observation of surface, naval, and aviation fires, but it can also be used to search along points, routes, or areas of interest. Multisensor imagery reconnaissance involves the use of radar, infrared, and television camera technology to inform intelligence. Synthetic aperture radar maps can be obtained from long distances and high altitudes. Infrared imagery can be used to discern between targets using the infrared spectrum and advanced camera technology helps to magnify imagery beyond what visual means can provide. All of these multisensory capabilities can exist on one platform or across a series of platforms to provide a fused intelligence picture of the enemy.⁴² The last type of air reconnaissance, electronic reconnaissance, examines enemy electromagnetic radiation. It uses this radiation to detect, identify, locate, and evaluate the enemy capabilities. Electronic reconnaissance is passive in nature and is used to determine the enemy's electronic order of battle.

Aviation intelligence supports air reconnaissance operations by providing enemy surface-to-air threats, capabilities, force dispositions, intentions, and vulnerabilities.⁴³ This support also includes environmental assessments and real-time intelligence updates during mission execution.⁴⁴ Air reconnaissance also provides aviation intelligence support to the other warfighting functions to assist with MAGTF collections. This

⁴¹ Ibid., 1-3 - 1-5.

⁴² U.S. Marine Corps, MCWP 3-26, 1-9.

⁴³ Ibid., 4-3.

⁴⁴ Ibid.

support is requested through the MAGTF visual reconnaissance and surveillance requirements list, which is based on the MAGTF priority intelligence requirements and intelligence requirements.⁴⁵

Electronic Warfare

Similar to electronic reconnaissance, electronic warfare aims to detect, locate, identify, and evaluate enemy electromagnetic radiation. It then uses this to conduct one of three missions of electronic warfare: electronic attack, electronic protection, or electronic warfare support.⁴⁶ Electronic attack looks to conduct offensive actions against the enemy with the electromagnetic spectrum. This can be done by denying or degrading enemy capabilities such as early warning radar, communications, or air defense radar. Electronic protection seeks to prevent the enemy from conducting these kinds of attacks against friendly assets. Additionally, electronic protection works to prevent unintentional effects from friendly assets as well. Electronic warfare support seeks to use the electromagnetic spectrum to recognize and catalogue threats so that further action can be taken against them, if deemed necessary. The only ACE asset capable of performing the electronic warfare function is the USMC tactical electronic warfare squadron.⁴⁷

Similar to air reconnaissance, electronic warfare requires aviation intelligence support and provides intelligence support to the MAGTF commander. A tactical electronic warfare squadron requires aviation intelligence to provide as much as they can

⁴⁵ Ibid., 4-4.

⁴⁶ U.S. Marine Corps, MCWP 3-2, 2-4.

⁴⁷ Ibid.

about the enemy and friendly electronic order of battle so that they can allocate receivers, jammers, and high-speed anti-radiation missiles.⁴⁸ In addition, aviation intelligence must be able to provide known air defense locations, identification, and capabilities to the tactical electronic warfare squadron.⁴⁹ Aviation intelligence provides support to the MAGTF through the tactical electronic warfare squadron by conducting electronic intelligence collections, providing threat warnings, updated enemy electronic order of battle, and location of non-friendly emitters.⁵⁰

Control of Aircraft and Missiles

The control of aircraft and missiles integrates the other five functions of Marine aviation by providing the commander with the ability to exercise command and control authority over Marine aviation assets.⁵¹ It also plays an instrumental role in developing and maintaining situational awareness of the aviation assets and their activities. The ACE is able to manage the control of aircraft and missiles through the Marine Air Control Group with air direction and air control.⁵²

⁴⁸ U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 2-22, *Signals Intelligence* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2004), 1-6, 5-2.

⁴⁹ U.S. Marine Corps, MCWP 2-22, 7-1.

⁵⁰ *Ibid.*, 5-1.

⁵¹ U.S. Marine Corps, MCWP 3-2, 2-5.

⁵² U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 3-25, *Control of Aircraft and Missiles* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2012), 1-2.

Air direction provides the authority to regulate the employment of air resources, both air and surface-to-air weapons. Air direction allows the ACE commander to properly allocate these resources to achieve the MAGTF commander's intent and desired endstate.⁵³ Air control provides the authority to direct the physical maneuver of aircraft and missiles.⁵⁴ It also provides the authority to direct aircraft and missiles to attack a specified target. Air control is further divided into airspace control and airspace management. These two elements further break out the delineation of authority with respect to the physical control of air resources.

Aviation intelligence provides the control of aircraft and missiles with a threat assessment of enemy air, ground, naval, and electronic orders of battle.⁵⁵ In addition, aviation intelligence is required to provide assessments of enemy reconnaissance capabilities (ground and airborne) along with terrorist and other unconventional threat capabilities.⁵⁶ Aviation intelligence is required to help command and control agencies develop procedures that minimize the loss of any single command and control node, so that they can continue to provide support to the MAGTF.⁵⁷

The six functions of USMC aviation provide the MAGTF with the operational flexibility it needs to accomplish its mission across the range of military operations.⁵⁸

⁵³ Ibid., 1-4.

⁵⁴ Ibid.

⁵⁵ Ibid., 3-5.

⁵⁶ Ibid.

⁵⁷ Ibid., 3-8.

⁵⁸ U.S. Marine Corps, MCWP 3-2, 1-1.

Each of the six functions requires specific aviation intelligence support that focuses on revealing threat capabilities, dispositions, and intentions.⁵⁹ This intelligence enables the commander to anticipate the threat's actions, reactions, and promotes tempo.⁶⁰ Timely intelligence is imperative in developing an effective plan. This intelligence must be provided by well-trained aviation intelligence units and their personnel.

Aviation Intelligence

Intelligence and operations should go hand-in-hand. Marine Corps Warfighting Publication 2-1, *Intelligence Operations*, states, "Intelligence is inseparable from operations. Intelligence drives operations by shaping the planning and execution of operations."⁶¹ While the capabilities of USMC aviation are able to inflict awesome damage against its enemies, it cannot be done without knowledge about the enemy. This knowledge comes from accurate and timely intelligence.

The practice of intelligence existed well before manned flight was invented. The creation of military aviation gave way to a new means from which intelligence could be gathered. An early example of this was seen during World War I, where aviation assets were used to conduct reconnaissance for developing precise targeting and up to date mapping against enemy formations.⁶² USMC intelligence can be traced back to the

⁵⁹ Ibid., 3-2.

⁶⁰ Ibid.

⁶¹ U.S. Marine Corps, Marine Corps Warfighting Publication (MCWP) 2-1, *Intelligence Operations* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2003), 1-5.

⁶² Macgregor Knox and Williamson Murray, *The Dynamics of Military Revolution* (Cambridge, MA: Cambridge University Press, 2001), 147.

Revolutionary War and it has served the USMC to present time.⁶³ Contrary to the history of USMC aviation, the history of USMC aviation intelligence is quite limited. One can only assume that this is due to the classified nature of intelligence.

Prior to ODS, USMC intelligence existed in a generalized form as MAGTF intelligence. MAGTF intelligence was tasked with supporting all elements of USMC operations and it filled all of its officer ranks with individuals who would laterally move from other military occupational specialties (MOSs), while at the captain level. These MAGTF intelligence officers served all USMC intelligence needs and were interchangeable across the combat arms. To serve USMC aviation needs, MAGTF intelligence officers served in positions at the wing, group, and squadron level. Some limited accounts from the 1950s and 1960s even indicate that aircrew sometimes filled squadron intelligence officer billets.⁶⁴

In 1991, even with all of its touted success, ODS provided the context that highlighted deficiencies in how the USMC operated. The most notable deficiencies were observed in USMC intelligence. Following ODS, the USMC determined these deficiencies to be inadequate doctrinal foundation, no defined career progression for intelligence officers, insufficient tactical intelligence support, insufficient joint manning,

⁶³ National Archives, "Records of the United States Marine Corps," U.S. National Archives and Records Administration, accessed January 9, 2015, <http://www.archives.gov/research/guide-fed-records/groups/127.html#127.3>.

⁶⁴ James Johnson, "This Business of Aviation Intelligence," *Marine Corps Gazette* 39, no. 2 (February 1955): 22.

insufficient language capability, and inadequate imagery capability.⁶⁵ These identified deficiencies led to the creation of the *Intelligence Plan*.

The *Intelligence Plan* or *Van Riper Plan*, was aptly named for Major General Paul Van Riper, who was commissioned to lead the study to revamp Marine Corps intelligence after ODS. Due to the deficiencies listed, the USMC identified a series of solutions. One of these solutions was the creation of four intelligence officer feeder MOSs. These intelligence MOSs were designed to provide competent, tactically relevant, and functionally based intelligence officers who would be selected and trained as second lieutenants.⁶⁶ The four officer MOSs created were ground intelligence (0203), human intelligence (0204), signals intelligence (0206) and aviation intelligence (0207). Prior to 1995, the USMC never had an aviation intelligence officer MOS.

Since the *Intelligence Plan*, USMC intelligence has also undergone organizational changes. In 1999, three intelligence battalions were created to support each of the respective Marine Expeditionary Forces (MEF). The Commandant of the Marine Corps established The Intelligence Department in 2000, which elevated intelligence from its place inside the command, control, communication, computers, and intelligence division to become its own command.⁶⁷ The Intelligence Department is responsible for policy, plans, programming, budgets, and staff supervision of intelligence and supporting activities within the USMC. In addition, the Marine Corps Intelligence Activity (MCIA)

⁶⁵ Commandant of the Marine Corps, ALMAR 100/95, Subject: Program to Improve Marine Corps Intelligence, Washington, DC, 24 March 1995, 1.

⁶⁶ Ibid., 2.

⁶⁷ R. Liebl Vernie, "The Intelligence Plan: An Update," *Marine Corps Gazette* 85, no. 1 (January 2001): 54.

became a command in 2001; this was done to provide better support to operators.⁶⁸ These organizational improvements intended to place a greater emphasis on organic USMC intelligence capabilities and provide the leadership positions necessary to correct the findings of the *Intelligence Plan*.⁶⁹

The Spoils of Air Superiority

During the last fourteen years, USMC aviation operations played a critical role in Operation Enduring Freedom and Operation Iraqi Freedom. In both wars, USMC aviation executed the six functions it was designed for, but without a sophisticated enemy. What is important to note is that these six functions were able to operate with air superiority established at the onset of both wars.⁷⁰ With no formal threat to aviation, aviation intelligence focused its efforts on non-traditional requirements for countering the insurgent threat.⁷¹ This focus, primarily on collections, has the potential to create a false sense of what aviation intelligence entails and it has not truly tested USMC aviation intelligence holistically.

ODS represents the last time U.S. and USMC forces even had to fight for air superiority. Even further back, the Korean War is the last time that U.S. ground forces

⁶⁸ Ibid.

⁶⁹ RAND Corporation, *Alert and Ready* (Washington, DC: National Defense Research Institute, 2011), 4.

⁷⁰ Andrew Slawson, "Air Power's First Among Equals: Why Air Superiority Still Matters" (Thesis, National Defense University, Joint Advanced Warfighting School, Washington, DC, 2008), 48.

⁷¹ Vernon Williams, "Air Combat Intelligence," *Marine Corps Gazette* 90, no. 1 (January 2006): 34.

suffered casualties due to enemy aviation.⁷² Aviation operations during ODS were able to reduce Iraqi military capabilities by eighty percent in a little over one month.⁷³

Regardless of the Iraqi's capabilities, in that short period of fighting, U.S. forces lost fifty-four aircraft.⁷⁴ Of that total, the USMC lost nine aircraft. In contrast, when the United States and USMC faced more formidable threats in Vietnam and Korea, the losses were much higher.⁷⁵ The USMC lost 678 aircraft during the Vietnam War and 463 aircraft during the Korean War.⁷⁶

An interesting corollary exists between the wars in Vietnam and Korea; that is the involvement of Russia and China. In both conflicts, Russian and China provided support in the form of equipment, training, and personnel.⁷⁷ When the USMC faces a near peer competitor in the skies, as it did during the Vietnam and Korean Wars, will it suffer similar loss rates and can it afford to? Waning budgets and the rising cost to procure

⁷² Robert Futrell, "The United States Air Force In Korea," Office of Air Force History, Washington, DC, 1983, 689-692.

⁷³ Richard Hallion, *Storm Over Iraq* (Washington, DC: Smithsonian Institution Press, 1992), 238.

⁷⁴ "U.S. Aircraft Losses War in the Gulf," *Baltimore Sun*, 3 March 1991, accessed 17 March 2015, http://articles.baltimoresun.com/1991-03-03/new/1991062056_1_ah-64apache-combat-oh-58-kiowa.

⁷⁵ "U.S. Aircraft Losses War in the Gulf."

⁷⁶ Keith McCutcheon, "Marine Aviation in Vietnam: 1962-1970," *Proceedings Magazine* 97, no. 5 (May 1971): 19; Defense Prisoner of War/Missing Personnel Office, *Korean War Aircraft Loss Database Reports* (Washington, DC: Department of Defense, 2001), 1-152.

⁷⁷ Benjamin Cooling, *Case Studies in the Achievement of Air Superiority* (Washington, DC: Center for Air Force History, 1994), 472, 477, 510, 512.

aircraft would indicate not. In addition, will countries like Russia and China be providing the means to deter U.S. involvement?

Developing Threat Capabilities

Since ODS and the demonstrated capabilities of U.S. airpower, countries like China and Russia are working on advances to counter U.S. capabilities. These advances come in many forms, from fifth generation fighter aircraft, to advanced long-range surface-to-air missile systems. The advances in technology could threaten the ability for the USMC to conduct amphibious warfare and forcible entry using its six functions.

Advances in both short and long-range surface-to-air missile systems has been quite remarkable. During ODS, coalition forces faced single-digit systems like the SA-2, SA-3, and SA-6.⁷⁸ The development of new, longer-range surface-to-air missile systems, like the SA-20 and the CSA-9, have pushed engagement envelopes beyond 100 nautical miles.⁷⁹ Digital technology and advanced microprocessors have given way to greater capabilities of these systems. In addition, short-range surface-to-air missile systems now have the ability to employ advanced millimeter-wave radars that can detect, track, and engage many types of air delivered weapons.⁸⁰ These systems could severely complicate the ability to operate with air superiority.

⁷⁸ Leroy Stearns, *The 3d Marine Aircraft Wing in Desert Shield and Desert Storm* (Washington, DC: History and Museums Division, Headquarters U.S. Marine Corps, 1999), 105.

⁷⁹ James Canan, "China's Growing Military Might," *Aerospace America* 51, no. 9 (October 2013): 24.

⁸⁰ Carlo Copp, "Technical Report APA-TR-2009-0703," Air Power Australia, April 2012, last updated 27 January, 2014, accessed 14 April 2015, <http://www.ausairpower.net/APA-96K6-Pantsir-2K22-Tunguska.html>.

Just as it has been done with surface-to-air missile systems, aircraft, and air-to-air missile technology advances have also been quite remarkable. Both Russia and China are working to complete their respective versions of fifth generation fighters, the T-50, J-20, and J-31.⁸¹ These fighters aim to counter U.S. stealth technology and possess the potential to penetrate U.S. air defenses using low observable technology. In addition, both countries have made leaps in their air-to-air missile technology. The development of active air-to-air missiles, capable of distances beyond 100 nautical miles, give both countries the ability to employ these weapons at great distances from the targeted aircraft.⁸² Lastly, the development of digital radio frequency memory electronic warfare pods has created the ability to deceive friendly aircraft radars. Digital radio frequency memory pods are able to receive an opposing aircraft's radar emissions, alter them, and then retransmit them to the host radar in the altered form. This creates a false radar picture to the victim aircraft, severely degrading situational awareness and creating an advantage for the enemy.⁸³ When combined, fifth generation aircraft with advanced air-to-air missiles and digital radio frequency memory jamming have the potential to create serious challenges to USMC aviation.

⁸¹ Canan, 24; Nicholas Larrinaga, "Russian T-50 PAK FA fighter prototype catches fire," *Jane's Defence Weekly*, 9 June 2014, accessed 17 March 2015, <http://www.janes.com/article/38971/russian-t-50-pak-fa-fighter-prototype-catches-fire>.

⁸² Richard Fisher, "China's Emerging 5th Generation Air-to-Air Missiles," International Assessment and Strategy Center, 2 February 2008, accessed 17 March 2015, http://www.strategycenter.net/research/pubID.181/pub_detail.asp.

⁸³ Department of the Air Force, "Broad Trends in Chinese Air Force and Missile Modernization," Testimony before the U.S.-China Economic and Security Review Commission, Washington, DC, 30 January 2014.

Finally, the concept of anti-access area denial presents the USMC with a multitude of challenges that it has not had to face before. Anti-access area denial aims to deny access to enemy territory through many different means.⁸⁴ An example of physical means can be seen with long-range missile technology. The use of long-range anti-ship or ballistic missiles, by the enemy, can deny U.S. and USMC forces the ability to stage and employ its forces in close proximity to enemy territory. The ability to jam U.S. global positioning system signals and military datalink networks are examples of electronic means of anti-access area denial. By denying the use of global positioning system, U.S. aircraft and weapons may not be able to function with the precision guidance they are accustomed. In addition, by denying military datalink signals, U.S. forces could lack the situational awareness it provides.⁸⁵

Following ODS, the USMC recognized the crucial role intelligence plays on the modern battlefield. It identified fundamental intelligence deficiencies and created a program to improve USMC intelligence.⁸⁶ Since ODS, the USMC has not been challenged for air superiority and it has been involved in two lengthy counter-insurgency wars. These wars have not provided the opportunity to exercise the entire supporting role of the aviation intelligence system, because a threat to aviation did not exist. During this time, many advances have been made in technology designed to counter U.S. and USMC capabilities. This technology has the potential to deny the USMC the use of its ACE and could test USMC aviation intelligence far beyond what any other threat has in the last

⁸⁴ Canan, 22-23.

⁸⁵ Ibid.

⁸⁶ Commandant of the Marine Corps, ALMAR 100/95, 1.

forty years. This paper aims to determine whether USMC aviation intelligence is prepared to adequately support aviation operations.

Definitions

Air Superiority: That degree of dominance in the air battle by one force that permits the conduct of its operations at a given time and place without prohibitive interference from air and missile threats.⁸⁷

Air Supremacy: That degree of air superiority wherein the opposing force is incapable of effective interference within the operational area using air and missile threats.⁸⁸

DOTMLPF-P: DOTMLPF-P stands for Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, Facilities and Policy. It is an acronym used by the U.S. Department of Defense, and is a problem-solving construct for assessing current capabilities and managing change. DOTMLPF-P is defined in the Joint Capabilities Integration Development System Process.⁸⁹

Fifth Generation Aircraft: The exact characteristics of fifth-generation jet fighters are controversial and vague, with Lockheed Martin defining them as having all-aspect stealth even when armed, low probability of intercept radar, high-performance air frames,

⁸⁷ Cooling, 17.

⁸⁸ Ibid.

⁸⁹ Director, Joint Staff, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3160.011, *Joint Capabilities Integration and Development System* (Washington, DC: Joint Chiefs of Staff, 2015), GL-1.

advanced avionics features, and highly integrated computer systems capable of networking with other elements within the battlespace for situational awareness.⁹⁰

MAGTF: Specifically designed for swift deployment of Marine forces by air, land, or sea, the MAGTF provides the nation with a broad spectrum of response options when its interests are threatened. Coordinating a balanced team of ground, air, and logistics assets under a central command, these self-sustained, combined arms forces conduct the full range of operations. MAGTFs can be tailored in size and capability to meet the needs of each mission.⁹¹

Limitations and Scope

The focus of the research will be on how USMC intelligence agencies support aviation operations at all levels. The research will examine how USMC intelligence manages, develops, and trains its aviation intelligence personnel. The research will also examine the doctrinal publications, standardization, and organizations that support aviation intelligence and aviation operations. The biggest limitation to this research is that it was conducted using unclassified material and resources.

Delimitations

Due to the size of the USMC aviation community and its respective intelligence agencies, the research focuses on the organizational perspective vice the tactical. The research was focused on units located inside the United States. Units located outside the

⁹⁰ Lockheed Martin, “F-35 Lightning II, Defining the Future,” promotional brochure, 3.

⁹¹ U.S. Marine Corps, Marine Corps Doctrinal Publication 1 (WCWP), *Warfighting* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 1997), 55.

United States were not conducive to the limited windows of time available to conduct research for this thesis. The Marine Aircraft Groups (MAGs) that were utilized were chosen based on the type of aircraft that they command. The focus was on fixed-wing and rotary-wing tactical aircraft units that possessed F/A-18, AV-8, AH-1, and UH-1 aircraft. Surveys were not conducted regarding the effectiveness of aviation intelligence, because the RAND Corporation had already completed this in 2011. In addition, a number of *Marine Corps Gazette* articles articulate what the RAND surveys discovered.

Assumptions

In order to conduct the research, three primary assumptions had to be made. The first assumption is that the USMC wants its aviation intelligence to support its aviation operations. The second assumption is that expertise can be measured through the education and experiences to which aviation intelligence personnel are exposed. This is based on the definition of an expert; special skill or knowledge because of what you have been taught or what you have experienced. Expertise is then defined and measured as the skill of an expert. The final assumption is that no known changes are currently being implemented or explored regarding aviation intelligence in the USMC.

Expertise

As an F/A-18 pilot and a former Marine Aviation Weapons and Tactics Squadron (MAWTS-1) instructor, I have a personal bias towards USMC aviation intelligence that must be accounted for.⁹² While at MAWTS-1, I served as the subject matter expert in

⁹² The mission of MAWTS-1 is to provide standardized advanced tactical training and certification of unit instructor qualifications that support Marine aviation training and

surface-to-air counter-tactics, non-radio frequency surface-to-air missiles, air defense artillery, threat aircraft, and threat air-to-air missiles. It is because of my previous experience that I chose to pursue this research. I questioned why myself, an aviator, was teaching classes about threat capabilities, when it would have been more suited for the aviation intelligence instructors. I chose to conduct research in order to determine how aviation intelligence was being trained, managed, and supported. I wanted to determine if things could be done better, concerning aviation intelligence. All attempts have been made to remove and/or reduce this bias through the research methodology, but it must be acknowledged that it does exist.

readiness and to provide assistance in the development and employment of aviation weapons and tactics.

CHAPTER 2

LITERATURE REVIEW

I had the sense many of our problems are endemic and stem from the way we select, train and educate our intelligence personnel . . . In my opinion, we fail to establish an operational mindset in many of our intelligence personnel . . . A change in intelligence officer training would seem to be in order to correct this problem.

—Major General Paul Van Riper, USMC
“Observations During Operation Desert Storm”

The study of USMC aviation intelligence is necessary because it has been nearly twenty years since the release of the *Intelligence Plan* and the changes that Major General Van Riper proposed. These changes were drastic and necessary, but it cannot be assumed that they were all encompassing or infallible. While further changes have occurred in the structure and organizational design of USMC intelligence, very little has been done with regard to aviation intelligence. The disparity between how much has been invested in USMC aviation assets and USMC aviation intelligence must be examined. Ultimately, the USMC should not wait for another major conflict to learn that its intelligence capabilities were limited.

This is why it is necessary to examine the primary research question; does USMC aviation intelligence adequately support aviation operations? In addition, does the current structure allow experts to be developed inside the USMC aviation intelligence community and does the USMC need organic expertise in aviation intelligence?

Numerous *Marine Corps Gazette* articles have been written regarding the effectiveness or limitations of MAGTF intelligence and aviation intelligence. These articles provide insight as to how USMC personnel perceive the state of the intelligence

enterprise. Largely because of the many *Gazette* articles published, the USMC contracted the RAND Corporation in 2011 to conduct a study to examine ways of aligning the organizational structures of the USMC intelligence enterprise to efficiently and effectively carry out current and future missions and functions.⁹³ Lastly, a recent Expeditionary Warfare School paper was published regarding the current USMC aviation intelligence structure and its ability to support the F-35. While this document is singular and small in scope, it had immediate effect in how F-35 squadron intelligence officers were sourced. Lastly, personal experiences that have taken place within the aviation intelligence community led to questions regarding whether or not it could be done better.

The documents and experiences collectively provide insight into the effectiveness of USMC aviation intelligence, but they are limited in scope. In addition, most of the documents fail to present anything other than anecdotal evidence to support their arguments for change. These reasons provide the need for further analysis regarding the support that USMC aviation intelligence provides to aviation operations.

Marine Corps Gazette Articles

The *Marine Corps Gazette* is the professional military journal of the USMC. Its mission is to provide a forum for the exchange of ideas that will advance knowledge, interest, and esprit in the Marine Corps. The *Gazette* has existed since 1916 and it contains articles written by both active duty and retired military personnel. Numerous *Gazette* articles have been written regarding USMC MAGTF intelligence and more specifically aviation intelligence. These articles are individually documented below.

⁹³ RAND Corporation, 3.

Intelligence is a Team Sport

One year following ODS, then Major Dave Keller wrote to describe why he believed the USMC essentially got what it paid for, with regard to the performance of intelligence during ODS. In the article, he makes two profound statements that are tied closely to the primary research question. The first statement he makes is, “what good are our F/A-18s, M1s, V-22s, and the like if intelligence is not able to support them?”⁹⁴ He goes on to state, “the source of the problem does not lie solely with the intelligence officer, but instead within the attitude, training, equipment and doctrine.”⁹⁵

The author served as an intelligence officer during ODS and provides insight into what he believes caused the problems that the USMC experienced. He heavily focuses on training and equipment as the primary cause. In regards to this, he states, “training is the keystone to effective and responsive intelligence support. We cannot wait until we are on the eve of battle to determine that our intelligence system does not work.”⁹⁶ He highlights that a large amount of time is spent trying to learn the basics. Major Keller also highlights the need for intelligence billets that take place outside the USMC at the joint, national, and theater level. Though this article was written in 1992, the issues it addresses have been repeatedly written about and provides a large amount of the context that the research will examine.

⁹⁴ Russell Keller, “Intelligence is a Team Sport,” *Marine Corps Gazette* 76, no. 3 (March 1992): 17.

⁹⁵ Ibid.

⁹⁶ Ibid., 16.

Solving the 0202 Shortfall and Intelligence Occupational Field

These two articles were written from a point, counterpoint stance by two USMC majors regarding the availability and staffing of 0202 MAGTF intelligence officers. Discussions regarding the 0202 MOS are important because once an intelligence officer attains the rank of captain, the officer transitions to the 0202 MOS. The officer is then capable of serving in any intelligence billet within the MAGTF. What both articles highlight is the limited number of captains available to fill all of the 0202 billets and the limitations created by the scheduling of the MAGTF intelligence officer course (MIOC). Both articles show that this shortfall is at fifty-two percent of the required level, in 2011. This plays a large role in the second point, which is that this shortage requires the USMC to continue to rely on lateral moves into the 0202 intelligence MOS. This is important because lateral moves are something the *Intelligence Plan* aimed to eliminate. The final point highlighted in both articles is whether the MIOC adequately prepares intelligence officers to serve in any element of the USMC intelligence community. This discussion is left to anecdotal beliefs, without a thorough review of the course.

Air Intelligence MOS Needed

Written in 1968, this article provides a prescient look into the limitations of the USMC intelligence structure during the Vietnam War. The author makes a demand for specialization in aviation intelligence due to the complexity of the war and the lives that can be put in danger because of inexperience. He goes on to discuss that the sophisticated aircraft and dense electronic environment of that time are what have vastly increased the complexity of air intelligence. He argues that aviation intelligence “can no longer be left to the unschooled improvisation of ground oriented intelligence personnel on their

aviation tour.”⁹⁷ While this article is quite dated, its corollaries to the findings of the *Intelligence Plan* and recent *Gazette* articles regarding the need for specialized aviation intelligence are astounding. It also provides the context of a period when the USMC faced a very capable threat in the skies over Vietnam.

Rebuilding the 0207 Aviation Intelligence Officer

The focus of this article is primarily on the creation of the Aviation Intelligence Officers Course (AIOC), but it also highlights items that need to be addressed regarding aviation intelligence. The author discusses the need for tactical and operational credibility amongst aviation intelligence personnel and the need to further develop aviation intelligence training. He lists the Weapons and Tactics Instructor (WTI) course and a condensed flight-training syllabus as potential paths to obtain this credibility. A final thought that the author proposes is a shift from the aviation intelligence MOS away from a functional MOS to a discipline based MOS. He states that this would provide command opportunities and would help with retention issues inside aviation intelligence.

Reorganizing the Way We Do Aviation Intelligence

In the most recently written *Gazette* article regarding aviation intelligence, Lieutenant Colonel George David, a former Marine Aircraft Wing (MAW) G-2, discusses his observed shortcomings inside aviation intelligence and offers a detailed solution to the problem. Lieutenant Colonel David declares that aviation intelligence is more technical than other forms of intelligence and suggests that it demands dedicated

⁹⁷ John A. Hathaway, “Air Intelligence MOS Needed,” *Marine Corps Gazette* 52, no. 10 (October 1968): 55.

personnel. He goes on to highlight that enlisted intelligence personnel arrive with no specific training in aviation intelligence. The lack of a center for aviation intelligence is also highlighted as a problem that Lieutenant Colonel David proposes the USMC needs to fix. As with the other *Gazette* articles, many solutions are provided to fix aviation intelligence, but little has been done to prove that it is broken.

Rand Corporation Alert and Ready

In 2011, the USMC sponsored the RAND National Defense Research Institute to broadly review the organizational design of the USMC intelligence enterprise. Though it was not a part of study's design, *Alert and Ready* also presented tangential findings that came about during interviews and surveys. RAND then assigned appropriate weight to these findings and ranked them in their study. The second highest issue identified was the "vicious cycle in aviation: intelligence not well prepared to support aviators; aviators view intelligence as irrelevant."⁹⁸ In addition, the third and fifth ranked issues identified were a "general propensity to respond to the commanding general's curiosity rather than tactical force needs" and "regurgitation, not analysis, from certain layers in the organization."⁹⁹ Unfortunately, due to the designed focus of *Alert and Ready*, solutions to the issues identified regarding aviation intelligence, were not addressed.

Intelligence Career Paths and the Joint Strike Fighter

The final piece of literature to discuss is the Expeditionary Warfare School paper written by former TOPGUN intelligence officer, Captain Jake Hubbard. In his paper,

⁹⁸ RAND Corporation, 52.

⁹⁹ Ibid.

Captain Hubbard details, via comparative analysis, why the current USMC aviation intelligence structure cannot support fifth generation operations. The focus of Captain Hubbard's research is at the tactical level, primarily with the squadron intelligence officer and with MAWTS-1. Captain Hubbard proposes changes that would mirror the way the U.S. Air Force trains and prepares its squadron air intelligence officers and recommends MAWTS-1 as the center of managing aviation intelligence talent. The paper also makes note of the lack of specialization in aviation intelligence and declares it a problem that must be addressed. What is important to note, is that shortly after the release of the research paper, USMC Manpower changed its requirement for the F-35 squadron intelligence officer billet.

Conclusion

There is no shortage of criticism regarding how USMC aviation intelligence is performing its duties at all levels. While nearly all of the literature reviewed provides proposed solutions to correct aviation intelligence, none of them has provided research to identify and confirm that a problem or problems exist. This may be because intelligence personnel wrote all of the literature reviewed, with the exception of *Alert and Ready*. The underlying assumption is that personnel have witnessed and are convinced of the failings and do not see the need to prove the system is broken. What is also interesting to note, is the fact that no USMC aviators have written regarding the performance of USMC aviation intelligence, even though the RAND survey indicates that they believe there is a problem.

A search of literature for a competing hypothesis turned up nothing. This is not to say that a competing hypothesis does not exist, it just was not located during the research.

The research contained in this paper is important because all previous literature written about USMC aviation intelligence is insufficient. None of it has examined whether or not the current aviation intelligence enterprise is broken; it simply assumes it.

CHAPTER 3

RESEARCH METHODOLOGY

Many of the problems are endemic and stem from the way we select, train and educate our intelligence personnel.

—Major General Paul Van Riper, USMC
“Observations During Operation Desert Storm

Purpose of the Study

The problem this paper aims to identify is whether USMC aviation intelligence provides adequate support to aviation operations. Additionally, it will try to determine whether the USMC aviation intelligence community develops experts in aviation intelligence and whether or not the USMC needs experts in aviation intelligence. The purpose of this research is to determine if the current aviation intelligence program is operating properly or if changes and improvements are needed. As discussed in chapter 2, many opinions have been expressed regarding the broken nature of USMC aviation intelligence and the RAND study determined this unintentionally through its interviews and qualitative analysis. The question left to answer is why is there a perception of a vicious cycle in aviation, where the view is that intelligence is not well prepared to support aviators, and aviators view intelligence as irrelevant.¹⁰⁰ What is needed is an objective approach to find why many feel the organization may not be operating properly.

¹⁰⁰ RAND Corporation, 52.

The Approach and Methods

The nature of the research question required that a qualitative study be conducted regarding aviation intelligence. Primarily, ones and zeroes cannot sum up aviation intelligence and it cannot be evaluated through questionnaires, or the collection of numerical data. A qualitative study allows aviation intelligence to be studied by its doctrine, training, leadership, and organization. The difficulty with using qualitative methodology was in the design of the research as data was being gathered.

The design that was settled upon was one that evaluated the doctrine, organization, training, materiel, leadership, personnel, facilities, and policy of USMC aviation intelligence. The DOTMLPF-P design is utilized in the Joint Capabilities Integration Development System.¹⁰¹ DOTMLPF-P is used to determine and solve warfighting capabilities gaps through the evaluation of eight elements of warfighting capabilities. By breaking warfighting capabilities into eight elements, the Department of Defense and the individual services are able to carefully examine a capability gap and identify the limitation(s) associated within any of the eight elements. This allows detailed limitations to be identified, which then provides for solutions. When limitations and solutions are identified for an existing program, they result in a DOTMLPF-P change recommendation. The DOTMLPF-P change recommendation process is the method used to mitigate capability gaps primarily using non-materiel approaches.

The DOTMLPF-P approach provided a structure for the collection and analysis of data regarding aviation intelligence, so that limitations could be identified and solutions could be formulated. To examine the eight elements, a detailed study of numerous USMC

¹⁰¹ Director, Joint Staff, CJCSI 3160.011, 2.

and aviation intelligence publications was required. In order to validate what was stated in publications, data was obtained from many sources in the USMC aviation intelligence community. This data was needed to validate what was stated in publications and to fill in the gaps not covered by publications.

The sources chosen to provide details for the research were selected based on their leadership positions across the USMC aviation intelligence community. Of the eleven active duty Marine Aircraft Group (MAG) intelligence officers available, four were selected. Those selected were the MAG-29 S-2, MAG-39 S-2, MAG-31 S-2, and MAG-11 S-2. These four MAG intelligence officers were selected because they represent east coast and west coast USMC fixed-wing, fighter-attack, and rotary-wing attack squadrons. The S-2 for each of the four MAGs provided the detailed information needed for the methodology. Of the three active duty MAWs available, 3d MAW and 2d MAW were selected to represent the east coast and west coast as well. The MAW G-2 operations officer for each MAW provided the detailed information needed for the methodology. Due to operational constraints, only two Marine Expeditionary Unit (MEU) intelligence sections were available for discussion, these were provided by the 22nd MEU and the 13th MEU. The officer-in-charge and assistant officer in charge of the intelligence department at MAWTS-1 provided details for the research and the air defense analyst for MCIA provided it as well. The directors of AIOC and MIOC provided input from the intelligence schoolhouses and the remaining input was received from the training officer for the USMC aggressor squadron, VMFT-401. No intelligence officer resides at VMFT-401, so the pilot training officer was selected to provide the necessary information.

The validity of the research was accomplished externally with the Joint Capabilities Integration Development System's DOTMLPF-P process, which as already stated, is an existing Department of Defense process for identifying and correcting capabilities gaps. In addition, the details provided by official publications and by those who currently operate in leadership positions at all levels of USMC aviation intelligence, provided validity to the data found in the eight elements of the DOTMLPF-P analysis.

This research does involve some variables that must be considered, if further research is performed. The individuals identified to provide information for this research will not permanently reside at the positions they currently hold. There is the potential that a different individual or individuals could provide a different level of knowledge and/or opinion regarding the research topic. They might also have a different background in the field of USMC intelligence. In addition, official publications regularly change through scheduled update cycles; this could lead to different data provided by these publications from what was found during this research. These variables must be considered during any further research. Finally, due to the scope of this research and time limitations to complete it, not every USMC aviation intelligence agency could be contacted. The selection of those detailed above, represent all levels of the organization, but not every entity. This must be considered in further research as well.

CHAPTER 4

ANALYSIS

Once all data was collected and organized using the DOTMLPF-P structure described above, it then had to be analyzed and evaluated. The purpose of analyzing each element was to determine whether the element adequately supports aviation operations. The determination of adequate support was made by varied means for each of the eight elements, because of the different nature of each element. These means will be described below in detail for each of the respective elements. Regardless of the element being analyzed, the requirements set forth in USMC intelligence doctrine, orders, and manuals were always referenced. Additionally, informal interviews were able to confirm or deny whether official requirements were being completed or even followed. For some of the elements analyzed, publications did not exist or did not provide official guidance. In these instances, statements made during informal interviews provided the basis to make a determination of adequacy.

During analysis, it was determined that three of the eight DOTMLPF-P elements could not be fully researched or evaluated. These three elements were material, facilities, and policy. These elements were not fully researched due to limitations in time, scope, or the requirement for a higher level of classification. The research did determine that further examination is necessary for the three elements. These items requiring further research are discussed in chapter 5.

Doctrine

Marine Corps Order 5600.20P, *Marine Corps Doctrinal Publication System* states, “Doctrine provides the fundamental principles by which our forces guide their actions in support of national objectives.”¹⁰² To put it simply, doctrine can be defined as the way we fight. A thorough review of USMC intelligence doctrine took place to evaluate its support of aviation operations. The analysis of USMC intelligence doctrine first determined whether the doctrine even discussed aviation operations; if it did not, the publication was determined to be inadequate. If the publication did discuss aviation operations, it was then evaluated to determine if it provided any guidance on support to aviation operations. If it did provide guidance, the publication was determined to be adequate. If a doctrinal publication only mentioned the collections capabilities of aviation assets, it was determined to be inadequate. The results of the analysis are presented in table 1.

¹⁰² Commandant of the Marine Corps, Marine Corps Order 5600.20P, *Marine Corps Doctrinal Publication System* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, November 2006), 2.

Table 1. Doctrine Analysis

DOCTRINE - The way we fight			
#	Need	Provided By	Adequate
1	MCDP 2 Intelligence	USMC	Yes
2	MCWP 2-1 Intelligence Operations	USMC	Yes
3	MCWP 2-XX Aviation Intelligence	Does not exist	No
4	MCWP 2-2 MAGTF Collections	USMC	No
5	MCWP 2-3 MAGTF Intelligence Production and Analysis	USMC	Yes
6	MCWP 2-4 MAGTF Intelligence Dissemination	USMC	Yes
7	MCWP 2-21 Imagery Intelligence	USMC	No
8	MCWP 2-22 Signals Intelligence	USMC	No
9	MCRP 2-24B Remote Sensor Operations	USMC	No
10	MCWP 2-26 Geospatial Information and Intelligence	USMC	Yes

Source: Created by author.

The USMC has three hierarchal levels of doctrinal publications that it uses, Marine Corps Doctrinal Publications (MCDP), Marine Corps Warfighting Publications (MCWP), and Marine Corps Reference Publications (MCRP). MCDPs serve as the highest order of USMC doctrinal publications and their purpose is to provide enduring and fundamental beliefs on warfighting.¹⁰³ MCWPs are the next in line to MCDPs and provide a narrower focus that provides the tactics, techniques, and procedures for the prosecution of war or other assigned tasks.¹⁰⁴ Lastly, the MCRPs are more detailed and specific than the MCWPs; they provide general reference material and are tied to a parent MCWP.¹⁰⁵

¹⁰³ Commandant of the Marine Corps, Marine Corps Order 5600.20P, 2.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

As depicted in line 3, table 1, specific doctrine for aviation intelligence does not exist and thus provides no support to aviation operations. While aviation intelligence does not currently have any USMC doctrinal publications, it is important to note that signals intelligence, imagery intelligence, and counterintelligence all have their own MCWPs. Each of these intelligence disciplines has been provided the doctrinal foundation for their respective intelligence capabilities. In addition, the doctrinal publications for aviation operations mention aviation intelligence requirements, but in a very condensed format. This finding was an interesting one; the doctrinal publications written for aviation operations outline what aviation intelligence should provide to the ACE, yet no aviation intelligence doctrine exists to guide intelligence personnel on how they should support aviation operations. This finding was further supported by the informal interviews with intelligence personnel. All stated that they would like to have a doctrinal publication specifically for aviation intelligence.¹⁰⁶

An analysis of MCWP 2-2 revealed that the publication does not adequately support aviation operation because it does not discuss how aviation intelligence can support its aviation collections assets, line 4, table 1. The publication does discuss how aviation assets can provide collection capabilities to the MAGTF, but does not mention anything regarding support to aviation collections. As discussed in chapter 1, aviation collection assets required a thorough understanding of enemy capabilities. Additionally, lines 7, 8, and 9 of table 1 were also determined to be inadequate due to their focus only

¹⁰⁶ This sentiment was shared during telephone conversations and emails between the dates of 23 March 2015 and 8 April 2015 with the intelligence officers for MAG 11, MAG 31, MAG 29, MAG 39, 2d MAW, 3d MAW, 22nd MEU, 13th MEU, AIOC, MAWTS-1, and MCIA.

on collections. All three publications only describe what aviation can provide MAGTF collections, but do not mention how aviation intelligence support is to be provided to aviation collections.

Analysis of USMC intelligence doctrine indicates that adequate support is provided to aviation operations at the MAGTF intelligence level. What is missing is adequate doctrinal support at the ACE level. The analysis shows that the doctrinal foundation for aviation intelligence exists in bits and pieces in a variety of other publications, but that it has not been fully captured in a specific aviation intelligence warfighting publication. The importance of having a specific warfighting publication can be found in the foreword of the signals intelligence warfighting publication where it states “MCWP 2-22 serves as a basic reference for understanding concepts, operations, and procedures for the conduct of SIGINT operations in support of the MAGTF. This publication complements and expands on MCDP 2 and MCWP 2-1.”¹⁰⁷ Doctrinally, it appears that aviation intelligence does not adequately support aviation operations because it lacks a basic reference for understanding concepts, operations, and procedures for the conduct of aviation intelligence in support of the ACE and the MAGTF.

Organization

The organizational structure of USMC aviation intelligence was evaluated at all operational and support levels. Organizational structure is important because it determines how a force organizes for peacetime and combat operations. At first glance, the USMC aviation intelligence organization appears to be adequate for support to

¹⁰⁷ U.S. Marine Corps, MCWP 2-22, foreword.

aviation operations, but detailed analysis revealed limitations. The organizations were analyzed based on their ability to provide adequate support to aviation operations at the level that they reside. A determination of adequate or inadequate was made based on an organization's manning, fulfillment of official support requirements, and area of focus. The results of the analysis are shown in table 2.

Table 2. Organization Analysis

ORGANIZATION - How we organize to fight			
#	Need	Provided By	Adequate
11	Director USMC Intelligence	USMC	Yes
12	MCIA	USMC	No
13	MEF Intel Battalion	USMC	No
14	MAW	USMC	Yes
15	MAG	USMC	Yes
16	Squadron	USMC	Yes
17	MAWTS-1	USMC	Yes
18	AIOC	USMC	Yes
19	MIOC	USMC	Yes
20	Joint Billets for aviation intelligence	None	No

Source: Created by author.

MCIA

MCIA is tasked with providing tailored intelligence and services to the USMC, other services, and the Intelligence Community (IC) based on expeditionary mission profiles in littoral areas.¹⁰⁸ It supports the development of service doctrine, force

¹⁰⁸ The mission statement of MCIA states that it supports the development of service doctrine, force structure, training and education, and acquisition. Marine Corps Intelligence Activity, "MCIA's Mission," U.S. Marine Corps, accessed 12 February 2015, <http://www.quantico.usmc.mil/activities/?Section=MCIA>.

structure, training and education, and acquisition. As shown in table 2, line 12, MCIA does not provide adequate organizational support to aviation intelligence because of a lack of directed focus on aviation intelligence in support of USMC aviation operations.

Currently, only one intelligence position at MCIA is tasked to support USMC aviation operations. This singular position is officially titled Air/Air Defense Analyst and it resides in the Future Technologies Division. The purpose of the billet is to provide aviation intelligence analysis to be used for force modernization, concept development, and acquisition support, in order to serve the acquisitions arm of USMC aviation.¹⁰⁹ Additionally, the Air/Air Defense Analyst is not organizationally obligated to provide support to other USMC aviation intelligence organizations below it. The Air/Air Defense Analyst position is organizationally tasked to support the Marine Corps Combat Development Command and its Combat Development and Integration Branch.¹¹⁰

During emails and discussions with the MCIA Air/Air Defense Analyst, it was stated that he has personally tried to focus on providing training to operational forces because he knows there is a dramatic need for it, but he is not obligated to do it.¹¹¹ It was determined that MCIA does not provide adequate support to aviation operations because of its directed focus on aviation acquisitions. Because of this focus, MCIA does not provide aviation intelligence with doctrinal support, or training and education as it is organizationally tasked to do.

¹⁰⁹ Air/Air Defense Analyst, Marine Corps Intelligence Activity, email to author, 20 May 2014.

¹¹⁰ Ibid.

¹¹¹ Ibid.

MEF Intelligence Battalion

The MEF Intelligence Battalion mission is to plan, direct, collect, process, produce, and disseminate intelligence, and provide counterintelligence support to the MEF Command Element, MEF major subordinate commands, subordinate MAGTFs, and other commands as directed. It is composed of four companies, the Headquarters and Support Company, the Intelligence Operations Company, the Direct Support Company, and the Battlefield Surveillance Company. As displayed on line 13 of table 2, the MEF intelligence battalion does not provide adequate support to aviation intelligence, because it is not structured or staffed for aviation intelligence. By design, the MEF intelligence battalion does not provide support to aviation intelligence or aviation operations. During informal interviews with the assistant operations officer of one intelligence battalion, it was stated, “the battalion is purely ground-focused,” and that there is “no place for air intel missions at intelligence battalion right now.”¹¹²

Joint Billets

Insufficient joint manning and external billets was one of the six discrepancies noted by the *Van Riper Plan* following ODS. Since then steps have been taken to create more opportunities for USMC intelligence personnel in joint billets and throughout the IC. Analysis of available joint and IC aviation intelligence billets revealed a lack of positions available at aviation related joint and IC agencies. This lack of aviation related focus for joint and IC billets was determined to be inadequate to support aviation operations from an organizational perspective, line 20, Table 1.

¹¹² Assistant Operations Officer, II MEF Intelligence Battalion, email to author, 11 February 2015.

The Office of Naval Intelligence Strike Projection Evaluation and Air Warfare Research Center is responsible for providing near-term intelligence on aviation related threats to naval aviation. Currently, the Strike Projection Evaluation and Air Warfare Research Center has two billets for USMC personnel, but they are designated for and filled by USMC aviators. While these billets provide support to aviation operations, they are not provided by USMC aviation intelligence personnel. Similar to the Strike Projection Evaluation and Air Warfare Research Center for the U.S. Navy, the 547th Intelligence Squadron is the U.S. Air Force's Center of Excellence for Adversary Tactics Analysis. Currently, no billets exist or are being filled by USMC intelligence personnel.¹¹³

The IC has three agencies that are specifically designed to analyze and evaluate threat aviation and counter-aviation capabilities. The National Air and Space Intelligence Center is responsible for the analysis of aerospace related threat systems. The Missile and Space Intelligence Center provides the analysis of surface-to-air missile systems and the National Ground Intelligence Center focuses on ground-related systems, to include air defense artillery and threat helicopters. Currently none of these intelligence centers has positions for USMC aviation intelligence personnel.¹¹⁴

Of the five primary joint and IC agencies designed to analyze and evaluate aviation threats, only one agency currently possesses billets for USMC personnel. Unfortunately, these billets are designed for aviators, not intelligence personnel. The lack

¹¹³ Combat Arms Manpower Officer, Manpower Personnel Management Office, email to author, 15 October 2015.

¹¹⁴ Ibid.

of aviation-related joint or IC billets for USMC aviation intelligence personnel is inadequate for organizational support to USMC aviation operations. This is something the *Van Riper Plan* aimed to correct, nearly twenty years ago.

The data evaluated in table 2 indicates that aviation operations are not being adequately supported by organizations at the highest levels and in joint and IC billets. MCIA and the MEF intelligence battalions do not provide adequate support because these agencies are not currently required to provide aviation intelligence support to operational units, even though they exist to support MAGTF operations. This lack of support is compounded at the joint and inter-agency level due to a lack of aviation intelligence related joint and IC billets for USMC intelligence personnel.

Training

Training and Readiness Manual

Aviation intelligence training was analyzed to determine if it was properly preparing aviation intelligence personnel to support aviation operations. The RAND Corporation's findings that, "aviation intelligence professionals are not well prepared to support aviators to the point that aviators view intelligence as irrelevant," indicates a potential training issue.¹¹⁵ The evaluation of each organization's aviation intelligence training was determined to be adequate or inadequate based on its aviation related focus, its standardization with other training, and whether or not an evaluation process existed. The findings of the evaluation of each level of aviation intelligence training are displayed in table 3.

¹¹⁵ RAND Corporation, 52.

Table 3. Training Analysis

TRAINING - How we prepare to fight tactically			
#	Need	Provided By	Adequate
21	Intelligence T&R NAVMC 3500.100A	USMC	No
22	MAW aviation intel training	USMC - All MAWs	No
23	MAG aviation intel training	USMC - All MAGs	No
24	Squadrons aviation intel training	USMC - All Squadrons	No
25	AIOC aviation intelligence officer training	USMC - AIOC	No
26	MIOC aviation intelligence training	None	No
27	MAWTS-1 aviation intel training	USMC - MAWTS	Yes
28	VMFT-401 aviation intelligence training	USMC	No

Source: Created by author.

NAVMC 3500.100a, *Intelligence Training and Readiness Manual* (T&R manual), is the USMC's primary tool for planning, conducting, and evaluating intelligence training and assessing intelligence readiness. It is to be used by unit commanders to determine pre-deployment training and for formal learning centers and training detachments to create courses of instruction.¹¹⁶ The T&R manual also states that it is a tool to help develop a unit training plan, so that it can achieve proficiency in the core mission essential task list. By design, the T&R manual should provide aviation intelligence units with the guidance they need to conduct all levels of unit training and evaluation. As depicted in line 21 of table 3, the manual was found to be inadequate and unable to support aviation intelligence training and aviation operations. This was due to the T&R manual's lack of focus toward aviation intelligence, its vague training requirements, and its lack of evaluation requirements.

¹¹⁶ Commandant of the Marine Corps, NAVMC 3500.100a, *Intelligence Training and Readiness Manual* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, June 2013), 1-2.

The first issue identified during examination of the T&R manual was that the mission essential task list identified for intelligence training and evaluation was designed for an intelligence battalion, not an aviation intelligence unit. The T&R manual lists five intelligence battalion mission essential tasks (MET) that make up the mission essential task list, and are to be used for readiness reporting. The five METs are MCT 2.1.1 Conduct Intelligence Functions, MCT 1.1.2 Provide Task-Organized Forces, MCT 2.2.4 Conduct Ground Sensor Operations, MCT 2.1.3.3 Conduct Human Intelligence Activities, and MCT 2.1.3.6 Conduct Counterintelligence Activities. Each of these METs lists a series of collective events that comprise the entire MET. Because these METs are designed for an intelligence battalion, only two of them even require a single aviation intelligence collective event. These two collective events are INTL-AVNT-8901 provide intelligence support to aviation operations, and INTL-AVNT-4007 provide intelligence support to tactical air command center operational elements. Of the two collective events only one of them, INTL-AVNT-8901 provide intelligence support to aviation operations, requires an annual evaluation to determine if the event has been completed and is to standards. In addition, collective event INTL-AVNT-8901 has eight supporting events that makeup the collective event. None of these eight supporting events requires evaluation to determine if performance standards were met or if the event was completed at all.

An additional issue with the T&R manual is the defined training for specific MOSs, namely the 0207 aviation intelligence officer. The T&R manual identifies twenty-six individual events that a 0207 should complete at defined intervals. Of these twenty-six events, only one actually deals with aviation intelligence and it is incredibly vague;

0207-ANYS-1001 provide intelligence to support the six functions of aviation intelligence. The remainder of the required training for an aviation intelligence officer is focused on general intelligence functions that are not centered on aviation. In addition, none of the 26 individual events requires evaluation to determine if the events were performed to standards or even performed at all.

In its current form, the intelligence T&R manual does not provide aviation intelligence units and personnel with the necessary structure to conduct training and it is severely lacking in evaluation requirements. This results in inadequate training at all aviation intelligence units. Lines 22 through 24 were found to be inadequate because of the lack of aviation oriented, standardized guidance from the T&R manual.

This lack of guidance led 2d MAW to develop their own unofficial training program known as the Squadron Intelligence Training Certification Course. This course is currently not recognized or approved by the Training and Education Command and is currently being funded by 2d MAW internally. This course was designed to correct the deficiencies that 2d MAW's G-2 identified in a 2015 information paper. The issues identified were three fundamental training shortfalls; an absence of an aviation intelligence community T&R manual, an absence of a linked MAW intelligence T&R order, and a lack of a standardized aviation intelligence training.¹¹⁷ This further highlights that the intelligence T&R manual does not adequately support aviation intelligence training and its support to aviation operations.

¹¹⁷ John Christopher, "Squadron Intelligence Training and Certification Program" (information paper presented to Commanding Officer 2d MAW, Marine Corps Air Station, Cherry Point, NC, 25 March, 2015).

AIOC

As shown in line 25 of table 3, AIOC was determined to be inadequate as an adequate training course for entry-level aviation intelligence officers. The deficiencies with AIOC come from the lack of standardization, a lack of Top Secret instruction and the lack of classified instruction on the F-35. The courseware for AIOC is required to be developed from the mission essential tasks outlined in the intelligence T&R manual. The staff of AIOC stated that the main source of difficulty in developing and maintaining relevant courseware is due to the inadequacies of the intelligence T&R manual. In addition, there is no mandated relationship between AIOC, the aviation intelligence units, MAWTS-1, and MCIA. This has led to a lack of standardization between all elements and a lack of vision for what the course should look like.¹¹⁸ The current staff is working to correct this, but is limited by personalities and the lack of formal requirements.

The second issue highlighted by the AIOC staff, was the lack of Top Secret courseware and instruction. Currently, there is no formal requirement for AIOC courseware to use Top Secret material or be taught at the Top Secret level. Marine Corps Intelligence Schools Command does not see value in the use of Top Secret material.¹¹⁹ This results in a newly trained aviation intelligence officer that is not familiar with or trained on the use of Top Secret capabilities and material.

The third issue highlighted by the AIOC staff was the lack of classified instruction regarding the F-35. The capabilities of the F-35 reside under a special access program that requires special access program facilities and appropriate clearances to

¹¹⁸ Director, Aviation Intelligence Officer Course, email to author, 2 April 2015.

¹¹⁹ Ibid.

access. Currently, students at AIOC do not receive briefings on the F-35 at the special access level, which leaves them with a lack of understanding regarding the F-35.¹²⁰ The F-35 currently operates at two of the three MAWs and is slated to deploy to the Western Pacific Theater in 2017.¹²¹ Shortly thereafter, the MEU will begin to deploy with F-35s on its ships. The lack of classified F-35 training for aviation intelligence officers does not provide them with an adequate understanding of the support that aviation intelligence is required to provide to the USMC's most advanced aircraft.

MIOC

MIOC is the USMC schoolhouse for the production of the 0202 MOS, MAGTF Intelligence Officer. It is a ten-week course designed to transition the four specific intelligence feeder MOSs (ground, human intelligence, signals intelligence, and aviation) into one MOS. MIOC aims to provide company grade intelligence officers with a broad base of instruction to make them capable of serving in any intelligence officer billet within the MAGTF.¹²² As indicated by line 26 of table 3, MIOC does not provide adequate support to aviation operations because it does not provide adequate instruction on aviation intelligence.

¹²⁰ Ibid.

¹²¹ Deputy Commandant Aviation, U.S. Marine Corps, *Marine Aviation Plan* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 2015), 2.3.

¹²² Robert Burgess, "Solving the 0202 Shortfall," *Marine Corps Gazette* 95, no. 12 (December 2011): 60.

During the ten-week course, MIOC students only receive one day of instruction regarding aviation intelligence; in fact, it is only one class of instruction.¹²³ As outlined in chapter 1, the intelligence requirements for the six functions of USMC aviation are quite robust. This imbalance greatly affects the intelligence officers who have never received formal aviation intelligence training prior to MIOC, and who may be going to aviation intelligence units after they graduate. Informal interviews revealed that none of the non-aviation trained intelligence officers; currently serving in aviation intelligence billets felt that MIOC prepared them to adequately support aviation operations.¹²⁴ Additionally, the Squadron Intelligence Training Certification Course information paper published 2d MAW, which focused on aviation intelligence intermediate level training, highlighted that, “intel Marines lack the appropriate understanding of the capabilities, limitations, and employment methods for USMC aviation intelligence.”¹²⁵

MAWTS-1

MAWTS-1 exists to provide standardized advanced tactical training and certification of unit instructor qualifications that support Marine aviation T&R.¹²⁶ MAWTS-1 does this by conducting the WTI course twice a year. MAWTS-1 is governed by MCO 3500.109, *Weapons and Tactics Training Program* (WTTP). The WTTP states

¹²³ Director, Aviation Intelligence Officer Course, email to author, 2 April 2015.

¹²⁴ Intelligence Officers, MAG-31, MAG-39 and MAG-29, telephone conversations with author, 24-27 March 2015.

¹²⁵ Christopher.

¹²⁶ Commandant of the Marine Corps, Marine Corps Order 3500.109, *Weapons and Tactics Training Program* (Washington, DC: Department of the Navy, Headquarters U.S. Marine Corps, 16 January 2007), 1.

that MAWTS-1 shall provide many different forms of training and support to the aviation community; this includes the aviation intelligence department.¹²⁷ As shown in line 27 of table 3, MAWTS-1's aviation intelligence department does not adequately support aviation operations because it does not adhere to three notable requirements, outlined in the WTTP.

The first requirement not being adhered to is MAWTS-1's responsibility to "ensure periodic liaison visits are made to all Marine Corps aviation and aviation ground units to conduct appropriate supplementary courses of instruction and provide new information on Marine Corps, Joint, and threat weapons and tactics developments, and assist unit WTIs in maintaining unit training programs."¹²⁸ Currently, the MAWTS-1 aviation intelligence department does not conduct liaison visits with any of the USMC aviation intelligence units. There is no participation in unit training programs or instruction being provided to fleet units. Because of this, MAWTS-1 personnel are not able to evaluate or affect unit-training programs, as they are required to do.

The second requirement not being adhered to is their responsibility to serve as the syllabus sponsor for all aviation T&R manuals and ensure T&R conferences are conducted triennially, or as desired by operating force units.¹²⁹ MAWTS-1 did not participate or have any involvement in the development of the most recent T&R, and according to MAWTS-1 staff, they were not even asked to participate in the re-write of

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ Commandant of the Marine Corps, Marine Corps Order 3500.109, 5.

the most recent intelligence T&R manual.¹³⁰ This lack of involvement in T&R development can be directly attributed to the lack of detail and standardization in the current T&R manual.

The last requirement not being adhered to is that MAWTS-1 “shall assist with the development and editing of Marine Corps aviation doctrinal publications and provide subject matter expert review of Marine Corps and Joint doctrinal publications and orders relating to or incorporating aviation weapons and tactics.”¹³¹ The MAWTS-1 aviation intelligence department does not participate in the development or editing of USMC or joint doctrine. As stated earlier, aviation intelligence doctrine does not even exist. This lack of involvement in the development and management of doctrine can be attributed to the lack of doctrine supporting USMC aviation intelligence.

As outlined in the WTTP, MAWTS-1 is responsible for many important variables in the training and development of aviation units. MAWTS-1 does not provide adequate support to aviation operations, because they do not fulfill all of these responsibilities.

VMFT-401 Aggressor Squadron

Though it is not an official intelligence agency for the USMC, VMFT-401 was included in the research because of its role as the USMC’s adversary squadron. VMFT-401’s mission is to provide instruction to active and reserve fleet Marine forces and fleet squadrons through dissimilar adversary combat tactics training. Line 31 of table 3 depicts that VMFT-401 does not provide adequate support to aviation operations, because of its

¹³⁰ Intelligence Department Head, Marine Aviation Weapons and Tactics Squadron One, email to author, 7 April 2015.

¹³¹ Commandant of the Marine Corps, Marine Corps Order 3500.109, 5.

lack of trained aviation intelligence personnel and secure facilities, in support of the execution of adversary tactics.

VMFT-401 has one billeted position for its S-2 section, a 0231, enlisted intelligence specialist. As will be discussed in the personnel section of this chapter, a 0231 does not receive specialized aviation intelligence training and is not required to be a WTI graduate. In accordance with VMFT-401's table of organization, the squadron does not rate an aviation intelligence officer, or a MAGTF intelligence officer. This results in the USMC's adversary squadron being staffed with a single enlisted intelligence specialist, who receives no formal aviation intelligence training prior arriving to the unit.

In addition to the lack of intelligence personnel, the squadron does not possess secret or Top Secret access in its squadron spaces.¹³² This creates a situation where squadron personnel are required to visit other MAG spaces, on board Marine Corps Air Station Yuma, to access classified information about the threat they are tasked to replicate.¹³³ The lack of trained aviation intelligence personnel and the lack of access to classified information create an organizational environment where VMFT-401 is not provided adequate aviation intelligence in support of the execution of adversary tactics.

Each of the aviation organizations was evaluated for the ability to support aviation operations through aviation intelligence training. A determination of adequate or inadequate was based on each organization's aviation related focus, its standardization with other training, and whether or not an evaluation process existed. The analysis

¹³² Pilot Training Officer, VMFT-401, telephone conversation with author, 26 March 2015.

¹³³ Ibid.

indicates that the T&R manual is the source for a number training deficiencies. Other deficiencies stem from the lack of adherence to the WTTP and the lack of classified access and training.

Leadership

Leadership positions inside aviation intelligence were evaluated based on what is outlined in the *United States Marine Corps Intelligence Officer Career Roadmap*. The roadmap outlines the preferred career progression for all USMC intelligence officers. The career guidance identifies three elements that make up the opportunities available to intelligence officers; they are command opportunities, intelligence opportunities, and joint opportunities. Command opportunities are described as making an intelligence officer highly competitive as they progress through the ranks. A determination of adequate or inadequate was made based on the availability of command opportunities inside aviation intelligence.

Table 4. Leadership Analysis

LEADERSHIP - How we prepare our leaders to lead the fight			
#	Need	Provided By	Adequate
29	Command billets offered inside Aviation Intelligence	USMC	No

Source: Created by author.

As shown in line 29 of table 4, USMC aviation intelligence does not provide adequate leadership and command opportunities because of a lack of command designated billets in aviation intelligence. In fact, from the rank of captain to colonel, no

command opportunity billets exist inside the aviation intelligence community.¹³⁴ This creates a situation where it is not advisable for an intelligence officer to serve in the aviation intelligence community if they want to remain competitive for retention and command. Many of the informal interviews validated this situation, to the extent that many stated that they chose to stay in aviation intelligence, but did not expect to not be selected for future command opportunities.¹³⁵ Others stated that they unwillingly had to take a position outside of aviation intelligence because they worried about career progression.¹³⁶

What is important to note is that the other three USMC intelligence specialties, ground intelligence, signals intelligence, and human intelligence, all have command opportunities available at the rank of captain to colonel. The lack of command opportunities in the aviation intelligence community has the potential to create a lack of competition or desire for our best intelligence officers to serve in aviation intelligence billets. If one does decide to take a billet inside aviation intelligence, they risk becoming non-competitive. This risk has the potential to affect the quality of aviation intelligence leadership and its support of aviation operations.

¹³⁴ Assistant Director of Intelligence, *United States Marine Corps Intelligence Officer Career Roadmap* (Washington, DC: Booz, Allen, Hamilton, September 2013), 45.

¹³⁵ Assistant G-2, 3rd Marine Aircraft Wing and Intelligence Officer, Marine Aircraft Group 11, telephone conversations with author, 20 February and 26 March 2015.

¹³⁶ Assistant G-3, 2nd Marine Aircraft Wing and Intelligence Officer, 22nd Marine Expeditionary Unit, telephone conversations with author, 30 March and 2 April 2015.

Personnel

Intelligence personnel are probably the most important part of an aviation intelligence unit. Without the proper personnel, a unit will not be as effective or efficient as they need to be to support aviation operations. The analysis of aviation intelligence personnel evaluated whether or not intelligence personnel adequately support aviation operations. The determination of adequate or not was based on the training requirements and manpower management of the personnel. This analysis is depicted in table 5.

Table 5. Personnel Analysis

PERSONNEL - Availability of qualified people			
#	Need	Provided By	Adequate
29	Intelligence specialist	USMC - 0231	No
30	Imagery Analysis Specialist	USMC - 0241	Yes
31	Geographic Intelligence Specialist	USMC - 0261	Yes
32	Aviation Intelligence officer	USMC - 0207 aviation intel officer	Yes
33	MAGTF Intelligence Officer	USMC - 0202 MAGTF intel officer	No
34	Weapons and Tactics Instructor	USMC - 0277 WTI grad	Yes
35	Weapons and Tactics Instructor Management	USMC - Manpower	No

Source: Created by author.

Enlisted Intelligence Personnel

Aviation intelligence enlisted intelligence personnel are trained as a 0231 intelligence specialist. They can enter the MOS at the beginning of their career or through a lateral transfer to the intelligence community. For those that begin their career as a 0231, they will attend the MAGTF intelligence specialist course. The MAGTF intelligence specialist course provides a broad base of instruction for junior intelligence

Marines and does not provide detailed instruction on aviation intelligence. For example, The MAGTF intelligence specialist course only discusses USMC aviation operations for three days of instruction.¹³⁷ After graduating from the MAGTF intelligence specialist course, 0231s are placed in any of the enlisted intelligence positions throughout the USMC. Aviation intelligence units, at all levels, receive the majority of their enlisted intelligence personnel from the 0231 MOS. A 0231 will normally serve a three-year tour with the unit where they are assigned and then will rotate to another unit. When a 0231 rotates, they are not required to remain exclusively in aviation intelligence. For example, they can rotate to jobs in ground intelligence.

As shown in line 29 of table 5, 0231 personnel were determined to be inadequate because they are not required to remain in aviation intelligence and because they receive very limited training in aviation intelligence. It was determined that many units' 0231 personnel have never been in aviation intelligence before, and may never return to aviation intelligence.¹³⁸ In addition, a 0231 is not required to attend any formal aviation intelligence schooling for their entire career.¹³⁹ The MAWTS-1 WTI course is offered to 0231s, but is not required for any enlisted billet inside aviation intelligence.

One of the reasons the Squadron Intelligence Training Certification Course program was created was to provide formal aviation intelligence schooling to 0231s

¹³⁷ Assistant Intelligence Department Head, Marine Aviation Weapons and Tactics Squadron One, email to author, 16 December 2015.

¹³⁸ Assistant G-2, 2d Marine Aircraft Wing, telephone conversation with author, 2 April 2015.

¹³⁹ Assistant Director of Intelligence, *United States Marine Corps 02 Series Enlisted Career Roadmap* (Washington, DC: Booz, Allen, Hamilton, September 2013), 47.

working in aviation intelligence units.¹⁴⁰ The difficulty that 2d MAW is discovering with this program is that there is no guarantee that the individuals they train will ever return to another aviation intelligence unit.¹⁴¹ This creates the potential for a cycle of regularly training 0231s who have never worked in aviation intelligence, and not getting any long-term effects from it because they rotate out of aviation intelligence three years later. In contrast to this, the 0241, Enlisted Imagery Specialist, and 0261, Enlisted Geographic Intelligence Specialist, both attend formal schooling on their specialty and remain in billets that require and utilize their expertise.

Intelligence Officer Personnel

Aviation intelligence officers begin their career by attending AIOC where they receive the 0207 MOS. After completing AIOC, they serve in a number of aviation related intelligence billets and supporting establishment billets. As shown in line 32 of table 5, it was determined that 0207s provided adequate support to aviation operations because they receive formal aviation intelligence training prior to their arrival at an aviation intelligence unit.

Once all intelligence officers reach the rank of captain, they are required to attend MIOC where they will receive the new primary MOS, 0202 MAGTF Intelligence Officer. When they receive the 0202 MOS, a formerly specialized intelligence officer becomes eligible to serve in any intelligence officer billet across the MAGTF.¹⁴² The

¹⁴⁰ Christopher.

¹⁴¹ Ibid.

¹⁴² Assistant Director of Intelligence, *United States Marine Corps Intelligence Officer Career Roadmap*, 42.

USMC manages its 0202s based on the belief that all MAGTF intelligence officers should have a broad range of experiences so that they can become multi-disciplined intelligence officers.¹⁴³

Through analysis shown on line 33 of Table 5, it was determined that a 0202 does not provide adequate support to aviation operations as an individual entity. This analysis was because a 0202 is not required to receive formal aviation intelligence training, prior to his arrival at an aviation intelligence unit. This can be seen in the background of the four MAG S-2s contacted; only one had a 0207 background. As discussed earlier in training, the current MIOC course only includes one day of instruction on aviation intelligence. What compounds this issue is that the 0231 enlisted intelligence specialists working for a 0202, are not required to receive any formal aviation intelligence training, and may have never worked in an aviation intelligence unit before. This creates a situation where potentially, none of the personnel at an aviation intelligence unit could have formal training or experience, regarding aviation intelligence.¹⁴⁴

Weapons and Tactics Instructors

During research, MAWTS-1 WTI graduates were repeatedly regarded as an excellent product for aviation intelligence units. Though the WTI personnel were determined to be adequate, the management of WTI's was determined to be inadequate as shown in line 35 of table 5. Analysis of the management of WTI personnel found that they are not being actively managed and are not required in any aviation intelligence

¹⁴³ Ibid.

¹⁴⁴ Christopher.

billet.¹⁴⁵ According to USMC Manpower, only two units even desire their 0202 billet be filled by a WTI; VMFA-121 and MAG-11.¹⁴⁶ By comparison, every USMC aviation squadron is required to have at least one WTI graduate. Per the WTPP, a WTI is necessary to develop and execute a unit-training program in accordance with the WTPP that supports the commanding officer's training guidance.¹⁴⁷ Training includes individual T&R training and collective operational unit training.¹⁴⁸

The lack of a requirement for aviation intelligence WTI's has also led to difficulty in determining who gets to attend the WTI course. Because no requirement exists for WTI's in the aviation intelligence community, MAWTS-1 regularly receives a large number of students who do not currently work in aviation intelligence and may never work in aviation intelligence.¹⁴⁹ One MAG S-2 stated that he had tried for four years to get his personnel to attend the WTI course, knowing that non-aviation intelligence personnel were filling seats.¹⁵⁰

Analysis indicates that many of the aviation intelligence personnel are not adequately prepare to support aviation operations. This is due to a lack of formal aviation

¹⁴⁵ Combat Arms Manpower Officer, Manpower Personnel Management Office, telephone conversation with author, 14 October 2015.

¹⁴⁶ Ibid.

¹⁴⁷ Commandant of the Marine Corps, Marine Corps Order 3500.109, 7.

¹⁴⁸ Ibid.

¹⁴⁹ Assistant Intelligence Department Head, Marine Aviation Weapons and Tactics Squadron One, telephone conversation with author, 27 March 2015.

¹⁵⁰ Intelligence Officer, MAG-39, telephone conversation with author, 26 March 2015.

intelligence school requirements, a lack of management of enlisted intelligence specialists, and a lack of a requirement for WTI's in the aviation intelligence units.

DOTMLPF-P provided the framework for a detailed analysis of each element that collectively makes up USMC aviation intelligence. This analysis was able to determine what sub-elements were adequate and inadequate in their support of USMC aviation operations. The determination of adequacy was based on a set of factors derived from USMC doctrine, orders, and manuals. This determination provided the results displayed in tables 1 through 5. The analysis of the doctrine, organization, training, leadership, and personnel that comprise aviation intelligence indicates that there are deficiencies in each of the five elements. These deficiencies will be used to develop conclusions and recommendations regarding aviation intelligence and its support to aviation operations. These conclusions and recommendations are discussed in chapter 5.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The Luftwaffe produced one of the most impressive doctrinal manuals on air war ever written, but at the end of the first part dealing with combat operations, the manual states that the sections dealing with intelligence and logistics had yet to be written. They never were.

—Williamson Murray and Allan Millett, *A War to Be Won*

Intelligence support to flying groups and squadrons was marginal throughout the battle, and its lack contributed to the German defeat.

—U.S. Marine Corps, MCDP 2, *Intelligence*

Conclusions

As the Luftwaffe demonstrated during World War II, adequate aviation intelligence support is necessary for aviation units to be successful in combat. MCDP 2 also identifies this historical military gaffe; yet ironically, it appears that the USMC currently suffers from many of the problems the Germans did then. This paper set out to determine whether USMC aviation intelligence adequately supports aviation operations. In addition, its goal was to determine if the current structure allows experts to be developed and whether the USMC needs organic aviation intelligence expertise. This chapter will provide conclusions that were made from the analysis in chapter 4 and will provide recommendations for the deficiencies identified.

The analysis conducted in chapter 4 evaluated the primary and secondary questions using the DOTMLPF-P model. This model allowed USMC aviation intelligence to be divided into eight specific elements. Through the analysis of each element, it was determined that five deficiencies exist. The five deficiencies identified

during analysis were a lack of doctrine; a lack of high-level intelligence support; a lack of clearly defined training, standardization, and evaluation; a lack of command opportunities; and poor personnel management. These deficiencies provided the basis for the conclusion to the primary question; USMC aviation intelligence does not adequately support USMC aviation operations. Each of the five deficiencies is described below.

Lack of Doctrine

A doctrinal imbalance exists between aviation operations and aviation intelligence. This was primarily determined by the fact that USMC aviation intelligence doctrine does not even exist; yet requirements for aviation intelligence support appear in aviation operations doctrine. Additionally, a common theme found in various intelligence doctrine was a focus on what aviation operations can provide intelligence, vice how intelligence can support aviation operations. This becomes an issue if and when USMC aviation is faced with a formidable threat that aims to deny the USMC air superiority.

Lack of High-Level Support

At the highest levels of USMC intelligence there is a lack of focus on aviation intelligence. This was determined by the lack of organizational focus or manpower devoted to aviation intelligence at the MEF Intelligence Battalion and at MCIA. In addition, there are no joint or IC billets for USMC intelligence personnel, at aviation-focused intelligence agencies. Because of this, an assumption has to be made that the USMC either does not feel that it needs to devote organic high-level resources to aviation intelligence or that it can simply get these resources from non-organic agencies. Either of these assumptions works counter to how the Deputy Commandant for Marine Aviation

envisioned USMC aviation operations when he stated, “We cannot count on someone else to arrive and kick the door down. We must be ready (and equipped) to carry the fight ourselves, from the sea.”¹⁵¹ Between the MEF Intelligence Battalion and MCIA, the USMC does not have anyone devoted to high-level aviation intelligence support for aviation operations. The current situation will require the USMC to count on someone else for the support, when it is needed.

Lack of Defined Training

Training, standardization, and evaluation are severely lacking because no dedicated aviation intelligence T&R manual exists. The T&R manual should provide aviation units with the structure and requirements to drive unit training at all levels, as well as the training conducted at aviation intelligence schools. The current T&R manual is designed for an intelligence battalion and received little input from any aviation intelligence organization during its last revision. This has left aviation intelligence units with a lack of detailed guidance regarding their regular training. While the Squadron Intelligence Training Certification Course program identified this problem and was created at 2d MAW to fill this gap, it does not provide a holistic solution to the entire problem.

It was determined that the MAWTS-1 WTI program provides valuable instruction to its WTI graduates, but that instruction is only taking place bi-annually at the WTI course. This is because the MAWTS-1 intelligence department is not fulfilling all of its duties as outlined in the WTTP, primarily by not conducting periodic liaison visits to all

¹⁵¹ Jon Davis, “Ready to Fight,” *Marine Corps Gazette* 99, no. 5 (May 2015): 17.

USMC aviation intelligence units to conduct training and evaluation. It was also determined that AIOC is providing valuable instruction to its students, but is lacking any guidance from the T&R manual or the other intelligence agencies. MIOC and the MAGTF intelligence specialist course have such a minimal focus on aviation intelligence that it was determined that they cannot begin to provide 0202s and 0231s all of the training needed to support aviation operations. The final ironic discovery was that the USMC's professional adversary squadron, who is tasked to accurately replicate threat tactics, is not even provided with an intelligence officer or classified access.

The consequence of all of this is that most of the intelligence organizations are operating on different agendas, none of which is formally linked to one another through the T&R manual or other formal agreements. This results in non-standardized training that is not required to be evaluated, across all of aviation intelligence. Some agencies are trying to correct this, but these efforts are driven by personalities, not by formal requirements. A lack of formal training, standardization, and evaluation has left a void that is being filled by the perceived best efforts and personality of each aviation intelligence agency.

Lack of Career Progression

Career progression for USMC aviation intelligence officers requires that they serve in command billets outside of aviation intelligence to remain competitive. This is because no command opportunities exist in aviation intelligence from the rank of captain to colonel. On the other hand, the other three intelligence specialties all possess command opportunities from the rank of captain to colonel. This imbalance directly affects the ability for aviation intelligence units to retain well-trained and well-qualified intelligence

officers who desire to work in the aviation intelligence community, but are concerned about command eligibility. Lastly, joint billets are described as being highly desirable for an intelligence officer's development, yet none exists for aviation intelligence. A lack of opportunities leaves aviation intelligence agencies limited by what it can offer its officers.

Poor Personnel Management

Personnel management for aviation intelligence personnel and WTI graduates is random and unorganized. The personnel tasked to fill billets at aviation intelligence units are placed into positions without regard to training or expertise. Officers and enlisted personnel filling aviation intelligence positions are not required to be WTI graduates, nor are they required to have attended formal aviation intelligence schooling. Intelligence officers are designed to be multi-disciplined and capable of working in any intelligence specialty, but they are not supported by specialized personnel. The multi-disciplined leader approach works if they are provided with experts working below them. This problem is compounded when a lack of doctrine or formal training manual is added.

Secondary Questions

The secondary questions of this paper focused on whether the current USMC aviation intelligence structure allows experts to be developed and whether the USMC needs organic expertise in aviation intelligence. Training and experiences are defined to be what makes an expert, and expertise is simply the skill of an expert. The issues identified in training and personnel provide the basis to conclude that the USMC is not developing experts in aviation intelligence. Collectively, the training that aviation

intelligence personnel receive is not standardized or evaluated. At times, it is so limited that it cannot cover the material necessary to support aviation operations. Most importantly, the two schools identified as credible institutions are not required for attendance by those filling billets in aviation intelligence.

The poor management of aviation intelligence personnel does not provide the experiences necessary to create an aviation intelligence expert. This is seen in the fact that once a 0207 becomes a 0202, they may never even return to an aviation intelligence billet. With this, WTI graduates, arguably the closest thing to an expert that the USMC aviation intelligence community has, is not even a requirement for any aviation intelligence billet. The opportunity to create aviation intelligence experts exists, but it is due to the random progression of one's career and is not the design of USMC aviation intelligence.

Though the current organization does not allow experts to be created, it does require that they exist. This question is easily answered by the intelligence support requirements highlighted in the six functions doctrinal manual that states that dedicated, organic intelligence support is required. This desire can also be found in the findings of the RAND Corporation study, which determined, through interviews, that intelligence was not well prepared to support aviators, which led aviators to view intelligence as irrelevant. Aviators need and desire credible intelligence personnel who can provide aviation intelligence expertise in support of aviation operations.

Recommendations

The USMC intelligence community must re-orient its focus and the importance it places on aviation intelligence. This focus must be towards providing credible aviation

intelligence support to aviation operations, and that this support is nested in everything USMC aviation does. USMC aviation intelligence cannot be an afterthought or a sidebar effort; it must be fully integrated into how USMC prepares to fight. To correct the deficiencies discovered, the USMC aviation intelligence community must provide the foundational framework necessary to provide adequate support to aviation operations.

Doctrine

At a minimum, a MCWP for aviation intelligence should be produced. This doctrinal publication should cover the TTPs for aviation intelligence support to USMC aviation operations, primarily the support to the six functions of USMC aviation. It should also integrate how aviation intelligence links with the other intelligence specialties of the USMC intelligence community and with joint and inter-agency elements. Additionally, MCRPs for aviation intelligence for each of the six functions or MCRPs for each of the aviation assets that the USMC possesses should be created. Either of these would provide a doctrinal foundation and understanding for the capabilities USMC aviation has, from an intelligence perspective. The responsibility of doctrinal development should reside with the two organizations formally responsible for the development and management of aviation intelligence doctrine, MCIA and MAWTS-1. This development should be aided by the staff at AIOC and by the senior leadership at each of the MAW G-2 sections.

Organization

At the highest levels, the USMC must commit MCIA to provide aviation intelligence to aviation operations. This support must not just be focused on acquisitions.

A dedicated aviation intelligence department must be developed and its focus should be on national level support to the six functions of Marine aviation and on amphibious operations. No other agency can provide this type of support and if the USMC truly wants the organic capability to attack anytime, anywhere from the sea, it must be provided with organic aviation intelligence support at the highest level. If organic support cannot be achieved or is not allowed, then MCIA should request liaison officers from the other aviation intelligence agencies. This type of requirement would still put experts in aviation intelligence in the construct of USMC intelligence, which would provide better organic support than what is currently being provided.

Training

A dedicated aviation intelligence T&R manual should also be produced. Again, MAWTS-1 should be the responsible agency for producing the manual, in accordance with the WTTP, and they should receive input from AIOC, MCIA, and the respective MAWs. The T&R manual should be made official by the approval of each MAW, similar to how it is already done by the aviation community. This T&R manual should produce a mission essential task list and individual METs that are focused on aviation intelligence and that can provide guidance on the conduct of regular unit level training events from the squadron S-2 to the MAW G-2. These events should be nested with the respective aviation T&R manuals so the training is integrated and is taking place in support of aviation operations training. This training should also require regular evaluation intervals and must feed representative aviation intelligence mission essential task list and METs. Lastly, the T&R manual must require evaluation by both WTI graduates and WTI instructors. This will allow for standardization and evaluation by outside agencies and

will promote a better level of understanding across the aviation intelligence community. The last recommendation regarding training is that AIOC students receive instruction at the Top Secret level and are provided classified instruction regarding the full capabilities of the F-35. This must be taught at the lowest levels, to support 0207s on their first squadron assignment and future intelligence assignments.

Career Progression

The command opportunities available for intelligence officers should include positions in aviation intelligence at all levels, from captain to colonel. There must be a balance to the opportunities available for the four intelligence specialties. Additionally, aviation intelligence officers should not be punished for returning to aviation intelligence billets, as long as they are conducting broadening billets as well. To also support this mindset, the USMC should create joint and IC billets for its intelligence officers at Missile and Space Intelligence Center, National Air and Space Intelligence Center, National Ground Intelligence Center, the 547th Air Intelligence Squadron, and Office of Naval Intelligence Strike Projection Evaluation and Air Warfare Research Center. These officers could serve as liaisons at the other national level intelligence agencies and they could directly interact with MCIA, MAWTS-1 and AIOC. This would broaden the knowledge and capabilities of USMC intelligence officers and would provide the ability to tap into aviation intelligence capabilities outside of what the USMC can provide.

Personnel Management

In order to foster expertise inside USMC aviation intelligence, personnel management should be corrected. The starting point should be with the enlisted

intelligence personnel. The USMC should create a new MOS, 0237 Aviation Intelligence Specialist. This specialist would be required to attend AIOC or a similar formal aviation intelligence school at the beginning of their career. From there an 0237, should be required to attend WTI prior to being eligible to serve as the chief of an aviation intelligence unit. This would put a priority on entry-level and mid-level schooling that would properly shape and enhance the capabilities of enlisted aviation intelligence personnel. These enlisted personnel would also serve as the continuity for expertise inside USMC aviation intelligence, which could support the multi-disciplined intelligence officer.

MAGTF intelligence officers should receive much more formal instruction on aviation intelligence while at MIOC. MIOC must provide at least one week of dedicated instruction regarding aviation intelligence, in order to provide an entry-level knowledge on support to aviation operations. This instruction should be taught by WTI graduates and it should be oriented to what intelligence support aviation operations require and what intelligence support aviation operations can provide. This would help to further integrate all intelligence disciplines at the MAGTF level.

Lastly, WTI graduates should be managed in accordance with the WTTP and required to fill specific aviation intelligence billets. Those that attend WTI should be filling or going to fill aviation intelligence billets across the MAGTF. They should serve as the training and evaluation conduit between MAWTS-1 and the units they represent. WTI graduates should be required at all MAGs, MAWs, MEUs, and at the adversary squadron as well. This would provide a standard level of capability regarding standardization, training, and evaluation for aviation intelligence. It would also create

common ground amongst the various aviation intelligence agencies. This is similar to how USMC aviation units currently manage their best and brightest at all levels of aviation operations and it should be mimicked in aviation intelligence.

Individually, none of these recommendations requires major shifts in manpower, nor do they require a significant amount of funding to implement. What has to change is the mindset and focus regarding USMC aviation intelligence, which it is just as important as the aviation operations it supports. The USMC intelligence, surveillance, and reconnaissance enterprise has to make a choice; wait for a credible threat to identify the deficiencies highlighted in this paper, or correct them now, prior to facing a credible threat to aviation. As the Germans demonstrated in World War II, aviation intelligence is a necessary component to the success of aviation operations and the force as a whole.

Items Requiring Further Research

As mentioned earlier in chapter 4, potential deficiencies were noted in the remaining three elements: material, facilities and policy; but due to limitations in time, scope, and classification levels, a definitive determination of adequacy could not be made. A brief discussion regarding each of these elements is made below, along with the potential impact they could have on aviation intelligence and its support of aviation operations.

Material: Technology Support to Aviation Intelligence

During conversations with the personnel involved with this paper, many highlighted a potential issue with the interoperability of the systems they are provided to conduct intelligence and to provide support to aviation operations. An example of this

was given regarding the use of the program FalconView and the Joint Mission Planning System.¹⁵² FalconView is used by aviation intelligence personnel to conduct intelligence planning, whereas the Joint Mission Planning System is used by aircrew for their planning. The potential problem with interoperability exists because of the use of two different programs to accomplish the same mission. Other programs highlighted during conversations, that may have potential interoperability issues, were the Command and Control Personal Computer and a program known as Palantir. If interoperability issues do exist with any of these systems, this would create problems with the dissemination of data down to the tactical units that require it. This issue was outside the scope and time available for this paper, but further research is required to determine if interoperability problems do exist.

Facilities: Sensitive Compartmented Information Facilities

A Sensitive Compartmented Information Facility (SCIF) is an enclosed area within a building that is used to process SCI types of classified information.¹⁵³ SCI is classified information concerning or derived from intelligence sources, methods, or analytical processes, which is required to be handled within formal access control systems established by the Director of National Intelligence.¹⁵⁴ Much of the intelligence data provided by national level intelligence agencies resides at the Top Secret, SCI level,

¹⁵² Assistant G-2, 3rd Marine Aircraft Wing and Intelligence Officer, Marine Aircraft Group 11, telephone conversations with author, 20 February and 26 March 2015.

¹⁵³ Director, Joint Staff, Joint Publication (JP) 2-01, *Joint and National Intelligence Support to Military Operations* (Washington, DC: Chairman Joint Chiefs of Staff, 2012), GL-16.

¹⁵⁴ *Ibid.*, GL-15.

and requires a SCIF to access.¹⁵⁵ During the research, it was discovered that two USMC air stations did not have SCIF facilities: Marine Corps Air Station Beaufort, SC; and Marine Corps Air Station New River, NC. In addition, it was determined that at Camp Pendleton, CA the only SCIF facility was located at the MEF headquarters, away from the MAG and squadron facilities. This presents an issue that requires further research at potentially a higher classification level as to why SCIF facilities do not exist or are not easily accessible at these locations, and what implication(s) this has on the units that reside there.

Policy: Defense Intelligence Analysis Program

During research, it was discovered that the defense intelligence analysis program (DIAP) is a governing program that dictates what each of the federal intelligence agencies focuses on. This was highlighted as a potential roadblock for MCIA and its ability to work on aviation intelligence. By not having a DIAP lane to work in, regarding aviation intelligence, MCIA is potentially limited to what role it is allowed to play.¹⁵⁶ This issue requires further research to determine the full limitations of DIAP and what options exist to circumvent DIAP if desired or required. During research, it was discovered that Office of Naval Intelligence Strike Projection Evaluation and Air Warfare Research Center is able to work around their DIAP limitations because of direction and

¹⁵⁵ Intelligence Officers, MAG-31, MAG-39, and MAG-29, telephone conversations with author 24-27 March 2015.

¹⁵⁶ Air/Air Defense Analyst, Marine Corps Intelligence Activity, email to author, 6 April 2015.

funding provided by the Chief of Naval Operations.¹⁵⁷ If MCIA is required to provide operational support to aviation intelligence and aviation operations, specific direction and funding may be required. This issue requires further research to determine if DIAP is in fact an issue and whether or not the USMC can work around the issue, if desired or required.

¹⁵⁷ Intelligence Analyst, Office of Naval Intelligence, telephone conversation with author, 4 April 2015.

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